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SOAP AND CHEMICAL SPECIALTIES

OCTOBER 1961

Planning ahead for the 35th annual meeting of Association of American Soap & Glycerine Producers is Roy W. Peet, secretary-manager since 1948 of the Soap Assn. Meeting will be held at Waldorf Astoria Hotel, New York, Jan. 24-26.

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Mild pH... only one of the reasons to use Solvay Snowflake Crystals

Its *(1) mild pH* of 9.8 in low concentrations at room temperature, is just one reason why Solvay® Snowflake® Crystals is applied in processes and products ranging from household and industrial cleansers to luxury bath preparations. It offers a combination of physical and chemical properties not found in any other form of alkali.

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Vol. XXXVII, No. 10, Oct., 1961

Cover Photo: Roy W. Peet, manager of the Association of American Soap & Glycerine Producers, plans for the 35th annual meeting of AASGP, to be held at the Waldorf Astoria Hotel, New York, next Jan. 24-26. Mr. Peet has been manager and secretary of the Soap Association since 1948. He is a member of the Peet family, which operated Peet Brothers soap company in Kansas City until its acquisition by Colgate. Mr. Peet was a vice president of Colgate-Palmolive Co., before becoming associated with the Soap Association.

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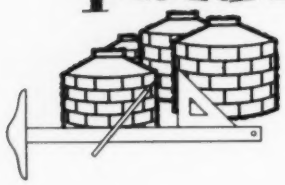

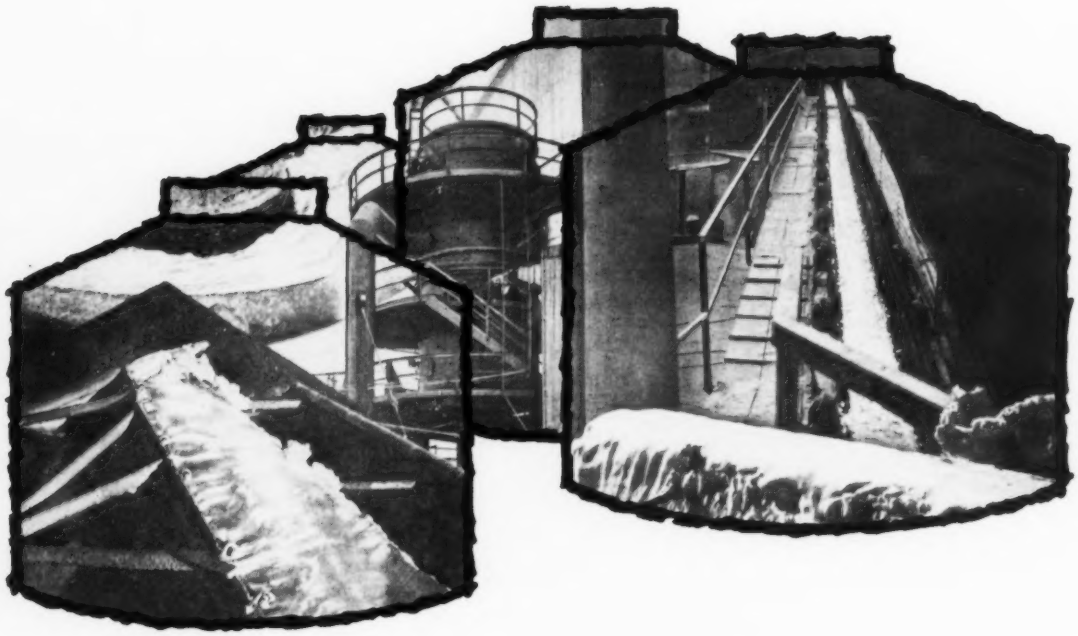

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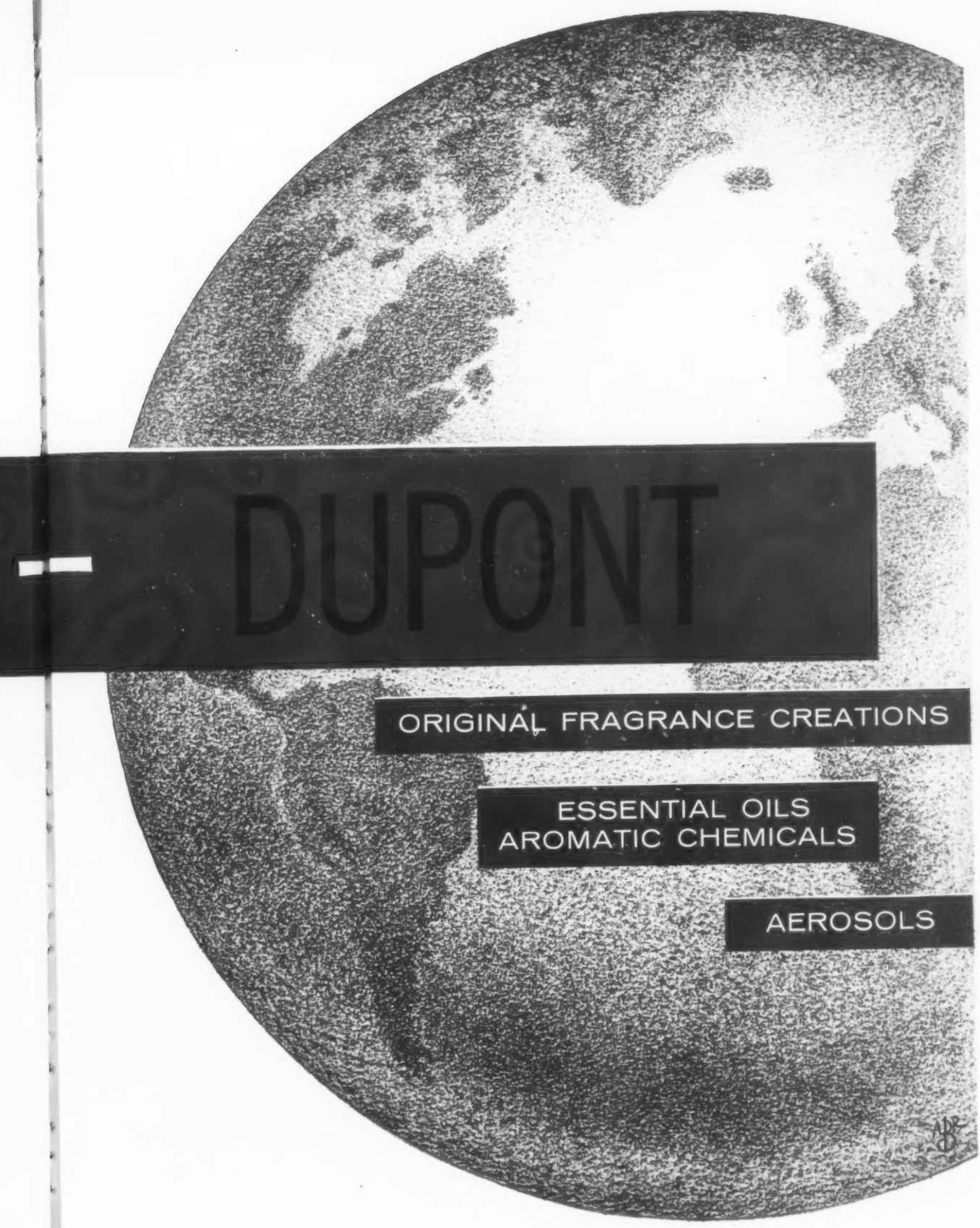
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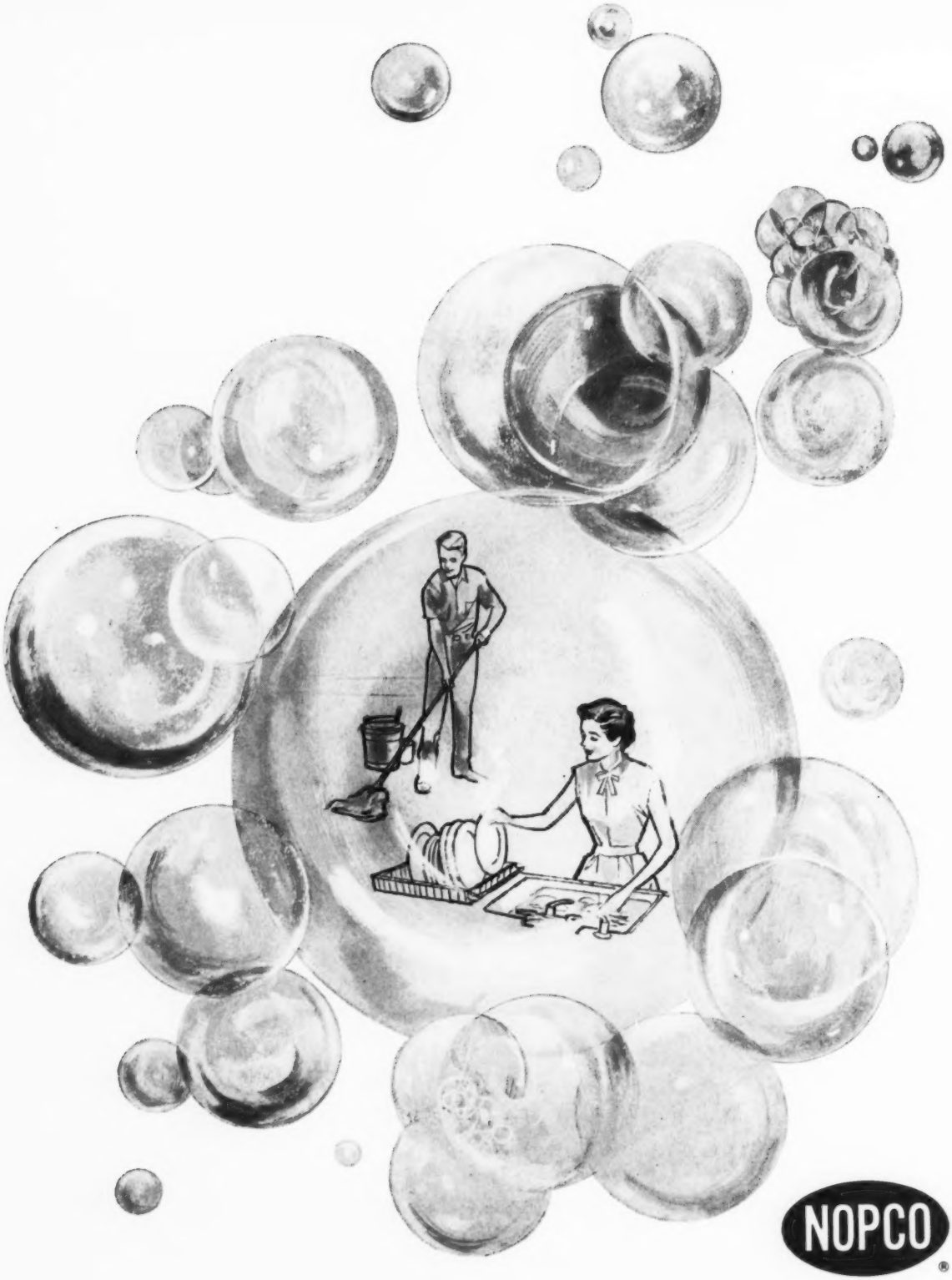
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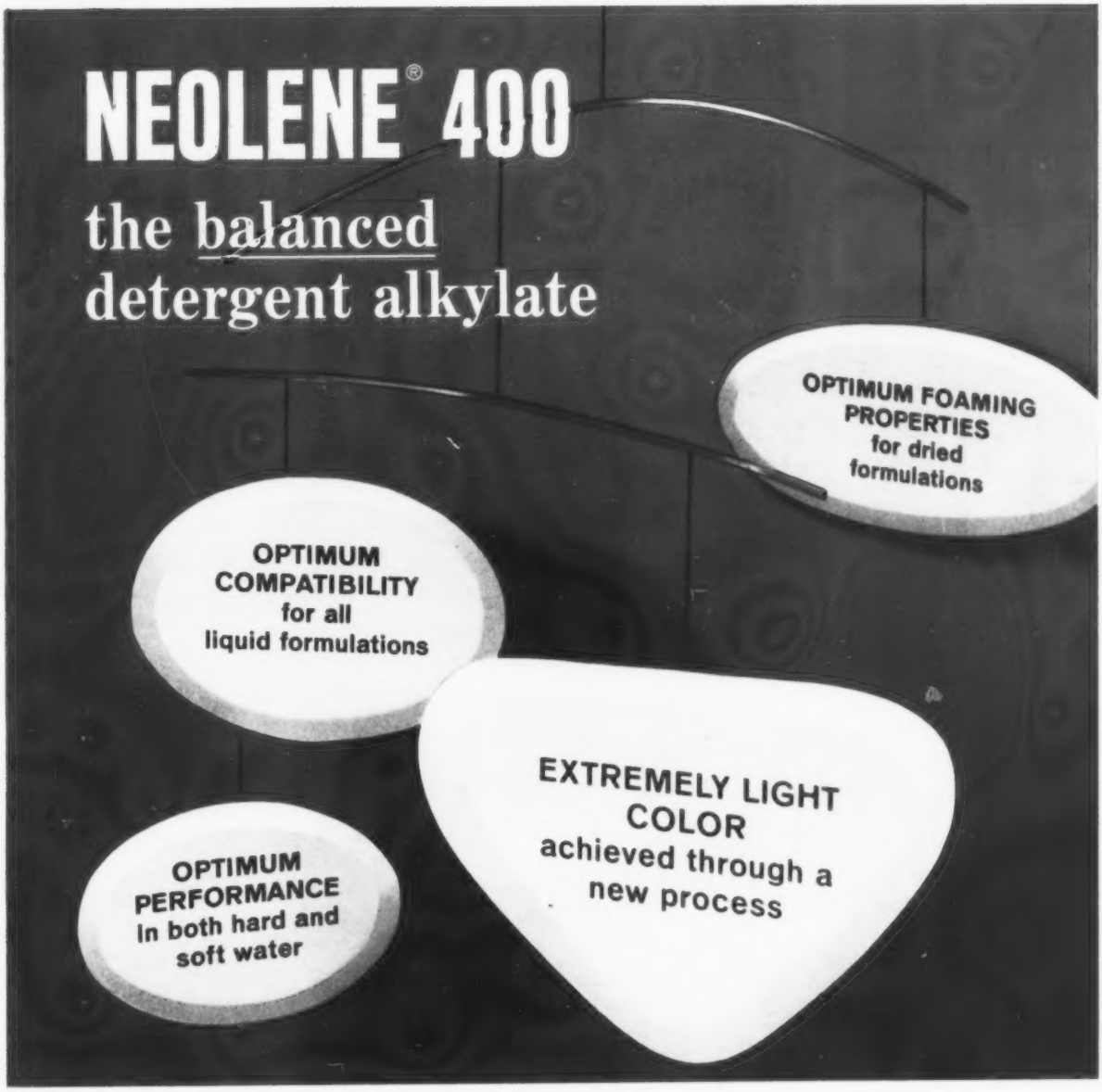
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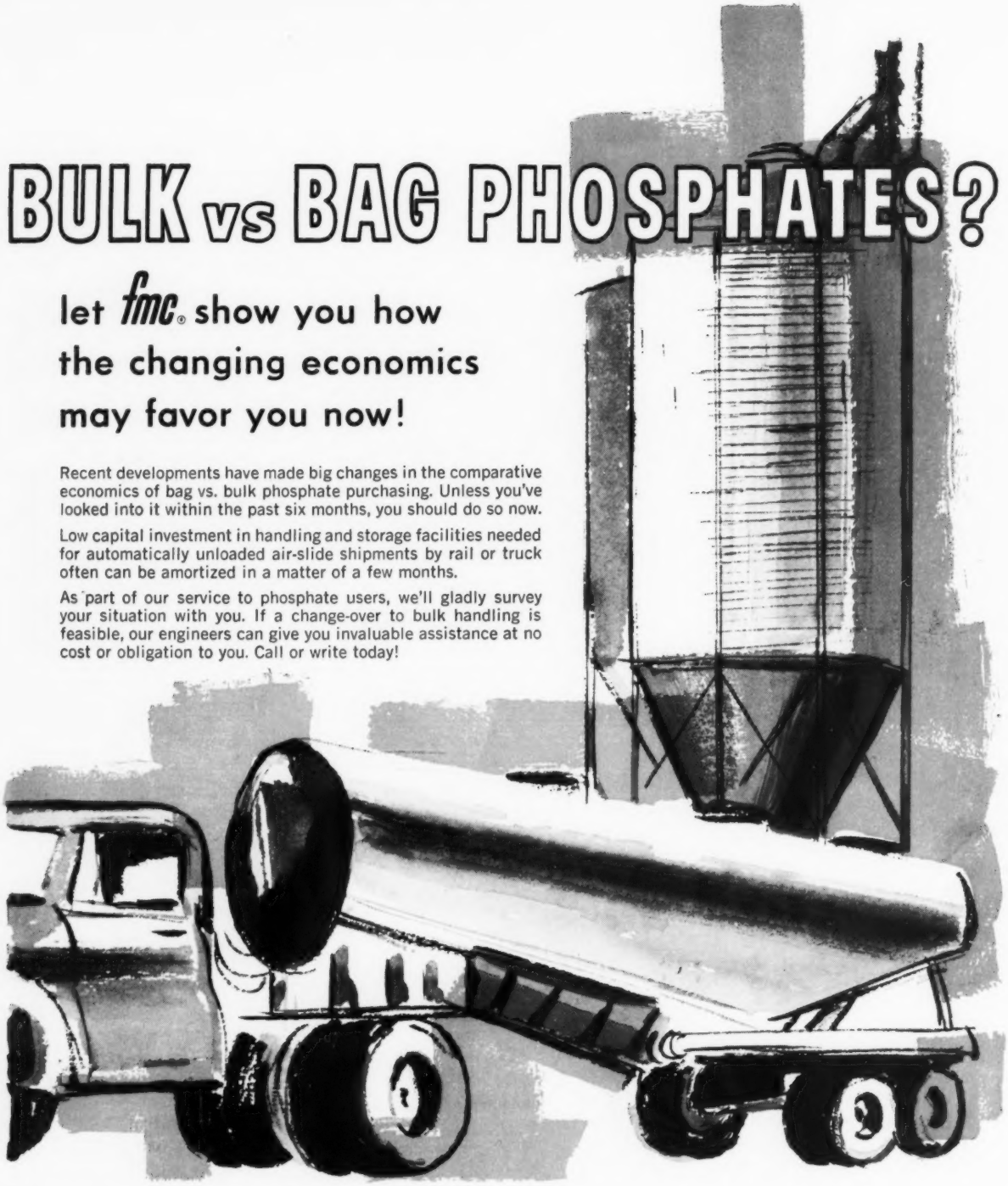

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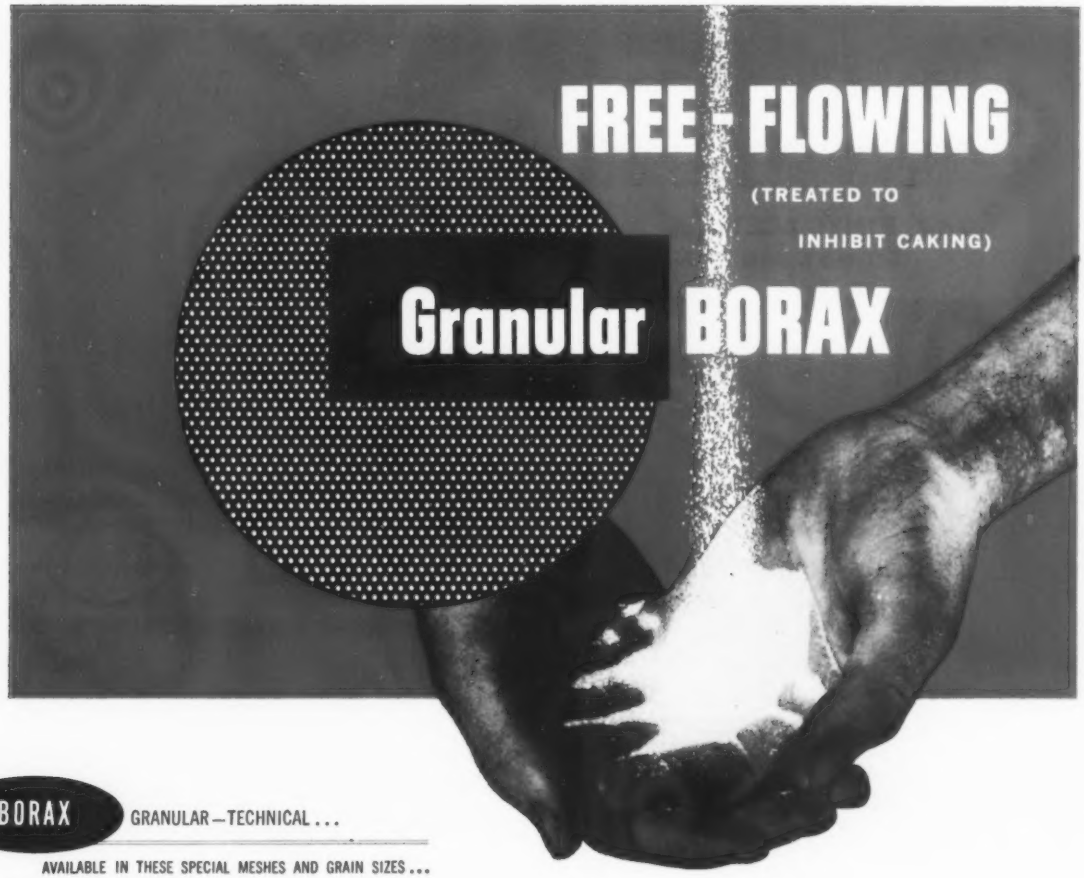

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Granular 30/60 (Special Mesh)	+ 30 + 60	0.5% 69.8%	+ 30 +100	max. 1% min. 80%
Granular 30/70 (Special Mesh)	+ 30 + 70	0.3% 71.0%	+ 30 + 40	max. 1% max. 20%
Granular 30/80 (Special Mesh)	+ 30 + 80	0.8% 76.6%	+ 30	max. 1%
Granular 30/100 (Special Mesh)	+ 30 +100	Nil 86.7%	+ 35 +100	none min. 85%
Granular 40/100 (Special Mesh)	+ 40 +100	Nil 89.0%	+ 40 +100	max. 0.5% min. 88%
Granular 40/140 (Special Mesh)	+ 40 +140	0.1% 88.8%	+ 83 +100	none min. 50%
Granular 40/200 (Special Mesh)	+ 40 +200	0.1% 84.1%	+ 30	none
Granular 60/200 (Special Mesh)	+ 60 +200	0.1% 66.7%	+ 60	max. 1%
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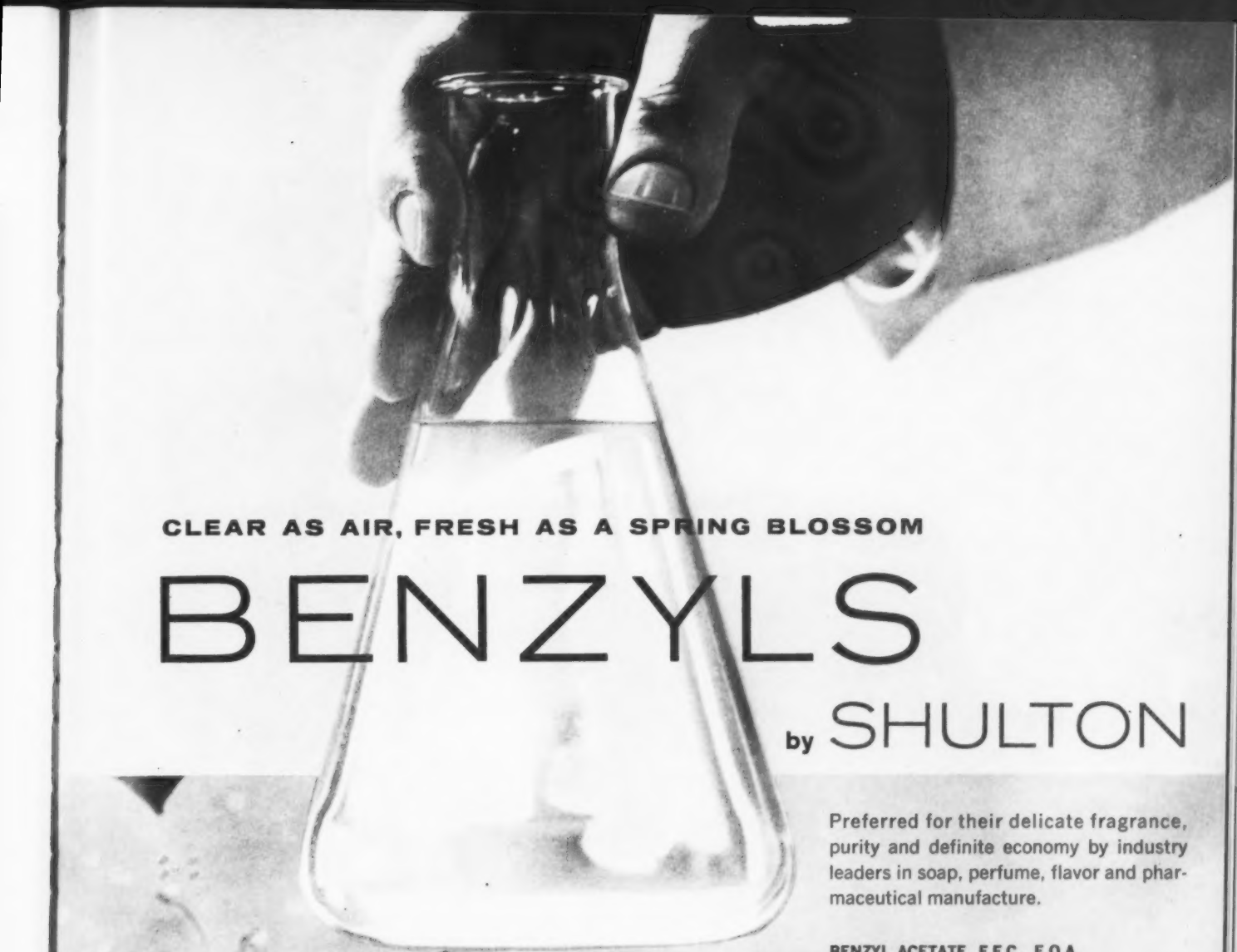

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AFTER CLOSING---

Fels Appoints Buck

Fred H. Buck, associated for many years with the chemical specialties business, has been appoint-

Fred H. Buck

ed manager of the industrial division, Fels & Co., Philadelphia, it was announced recenly.

The division, including research facilities, will manufacture and distribute chemical specialties under Fels brand names, and will also provide custom manufacturing and packaging, according to the company.

—★—

AOCS Detergent Program

Eight papers on synthetic detergents will be included in the program of the American Oil Chemists' Society's 35th Fall Meeting to be held Oct. 30 through Nov. 1, at the Pick-Congress Hotel, Chicago. Subjects dealing with analysis and with formulation of detergents will be presented. A number of novel surface active materials will be discussed and their potential use as detergent materials evaluated.

—★—

Martin Degavre Dies

Martin L. Degavre, retired plant chemist for Colgate-Palmolive Co., New York, died recently. Prior to his retirement in 1952, Mr. Degavre had spent 42 years with the firm at its Newark, N. J. and Jeffersonville, La., facilities. He was a member of the American Chemical Society and a member emeritus of the American Oil Chemists' Society.

—★—

Unilever Stock Split

Unilever, Ltd., Great Britain, recently announced plans to split its common stock four to one. The proposal will be voted upon by Unilever stockholders at a meeting to be held Oct. 20. It was reported that the firm is seeking to list its shares on the New York Stock Exchange and the decision to split the stock is a part of that program.

—★—

Archie Tarr Dies

Archie Tarr, 52, former advertising manager for Brillo Manufacturing Co., Brooklyn and the Manhattan Soap Co., died Oct. 1, in New Rochelle Hospital following a short illness.

—★—

Stanley Names Granat

Arthur E. Granat has been appointed distribution manager of Stanley Home Products, Inc., Westfield, Mass., it was announced recently. Mr. Granat, who joined the company in 1940, directs and coordinates the operation of the company's network of distributing stations.

—★—

C-P Consolidated Sales Up

Colgate-Palmolive Co., New York, recently reported record consolidated sales for the first six months of this year of $304,448,000, or $17,324,000 above the $287,124,000 volume in the 1960 period. Net income rose to $10,624,000, or $1.27 a common share, from $9,714,000, which was equal $1.15 a share in the initial half of

Two winners in the 6th National Flexible Packaging Competition announced Sept. 27, by the National Flexible Packaging Association are "Samae Instant Copper Cleaner," and "Huckleberry Hound Bubble Bath." Copper Clad Products, Newark, N. J., garnered two merit achievement awards in the Foil Sheets & Rolls, and Household Equipment & Supplies categories. The .00035 foil, laminated to #40 paper, is flexographically printed. "Huckleberry Hound Bubble Bath," by Robert Clark Co., Beverly Hills, Calif., is packed in .003 polyethylene, printed flexographically. It received a merit achievement award in the Polyethylene Bags & Pouches category.

last year. Second-quarter sales rose to $154,865,000, from $147,530,000 a year ago.

—★—

NPCA Meeting

Roach control will be one of the major subjects to be discussed at the 28th annual convention of the National Pest Control Association to be held in Miami Beach, Fla., Oct. 16-19, and in Nassau, B. W. I., Oct. 20-23. B. Wilson of Rutgers University will speak on "Roach Control Materials" on Tuesday morning, Oct. 17. Scheduled for Thursday morning, Oct. 19 is a presentation by M. Howell of Oklahoma State University on "Roach Repellents," and a paper dealing with "New Materials for Roach Control," by J. Grayson of Virginia Polytechnic Institute.

W. Dykstra of the U. S. Department of the Interior will speak Tuesday morning, Oct. 17 on "New Developments and Problems in the Control of Birds, Rodents and Wildlife Pests." His paper will be followed by a panel session on "How to Train Servicemen" with Tom McCloud of W. B. McCloud & Co. (Chicago) as moderator.

"Greater Profits Through Loss Control," by W. G. Macintosh, safety engineer, Hartford Accident and Indemnity Co., will be presented Thursday afternoon, Oct. 19.

The Nassau extension of the meeting will be highlighted by a contribution entitled "Acceptance of Pesticides by the Public," by Justus C. Ward, U. S. Department of Agriculture.

—★—

Chemical Firm Expands

Thoro Products Corp., formerly located at 3240 Larimer St., Denver, has recently moved to a $110,000 plant at 6611 W. 58th Place, Arvada, Colo. The new facilities permit a 60 per cent increase in the production of Thoro's complete line of household chemicals, including "X-O-X Bleach," "E-Z Cleaner," "Dip-it Thoro Ammonia," and "Thoro Dry Cleaner and Cashmere Fluff."

Fels Changes

John H. Leonard has been named acting national sales manager, Fels & Co., Philadelphia, it was announced recently. He was formerly sales manager in Chicago. David H. Slutzky, formerly Philadelphia district sales manager, has been named assistant national sales manager.

They succeed Frank H. Jelinek and Andrew T. Ronon, national sales manager, and assistant national sales manager, respectively, who have resigned to form their own food brokerage firm.

—★—

28th Chemical Show

The latest in materials, equipment and supplies for manufacturers, industrial consumers, formulators and packagers of chemicals and chemical specialties will be shown at the 28th Exposition of Chemical Industries, New York Coliseum, Nov. 27 through Dec. 1. With 535 exhibits this will be the largest chemical exposition held to date.

Trends will be toward further automation of processing and of analytical procedures. Highly specialized mixing equipment and pumps will be special features. An analogue computer developed especially for the chemical processing industries will be among the exhibits. The growing need for high-resistance structure materials is reflected in the offerings of the exhibitors.

—★—

Approve Economics Merger

The merger of Klenzade Products, Inc., Beloit, Wis., into Economics Laboratory, Inc., New York, was approved by a large majority of the stockholders of both companies at meetings held Sept. 15, it was reported recently. Klenzade will continue as a division of the parent Economics Laboratory, Inc.

C. B. Shogren, president of Klenzade Products, Inc., and A. L. Shogren, chairman of the board, have been named vice-presidents of Economics Laboratory, Inc. C. B. Shogren has also been elected to the board of directors of Economics.

The merger is being effected through an exchange of 11,774 shares of $4 cumulative convertible preferred stock and 52,041 shares of common stock of Economics Laboratory for the 176,613 outstanding shares of Klenzade common stock. The combined corporation will have annual sales of approximately $35,000,000, it was reported. Klenzade sales volume is currently approximately $7,000,000, per year. Total assets of the combined corporation are in excess of $15,000,000, with personnel of about 1,400 reported.

—★—

T-H Builds Laboratory

Thompson-Hayward Chemical Co., Kansas City, Mo., has announced construction of a two story, 20,000 square foot laboratory and office building on its Turner industrial site, 5200 Speaker Road, Kansas City, Kan. The new facility, expected to be completed in approximately six months, will supplement chemical manufacturing, formulation and distribution activities of the firm and its 19 branch offices located in the midwest.

The building will house quality control and research and development laboratories, in addition to offices and personnel of the plant's chemical production management staff. Unusual features of the building include a "Pyrex" glass drainage system, individual bay-controlled air-conditioning and deionized water piped to each laboratory bay.

—★—

Swalwell Joins CSC

William G. Swalwell has joined the industrial chemicals department of Commercial Solvents Corp., New York, it was announced recently. He will be headquartered in the company's Agnew, Calif., office. Mr. Swalwell was previously associated with Borden Chemical Co., and Pacific Coast Borax Co., as a salesman and technical representative.

Peggy Newton Names Two

Appointment of George M. Martin as general manager and Jack E. Allen as marketing manager of Peggy Newton, Inc., Westfield, Mass., was announced recently. Peggy Newton was acquired in January by Stanley Home Products, Inc., Westfield, Mass.

Mr. Martin is a member of the Peggy Newton board, and Mr. Allen, was formerly advertising director of Fuller Brush Co., East Hartford, Conn., for eight years.

—★—

Increases Sales Force

Fritzsche Brothers, Inc., New York, recently announced the addition of two new sales representatives in the Chicago area. Russell E. Bull, with Fritzsche for 14 years in the St. Louis area, and Everett H. Johnson, formerly associated with Polak's Frutal Works, Inc., Middletown, N. Y., have been appointed to that district.

—★—

Caustic Soda Safety Chart

A new wall chart listing safety precautions required in handling anhydrous caustic soda is available from Solvay Process Division, Allied Chemical Corp., 61 Broadway, New York 6.

In addition to handling precautions and protective clothing the chart covers instructions for first aid measures.

—★—

Johnson Names Richmond

John B. Richmond has been named assistant treasurer and head of the treasury department of S. C. Johnson & Son, Inc., Racine, Wis., it was announced recently. He formerly served as assistant to the president.

Mr. Richmond joined Johnson in 1948 and had held a number of posts in the firm's financial division before being named assistant to the household products division's vice-president in 1956, and assistant to the president in 1960. He supervises the company's banking, investment, insurance and tax matters, in his new post.

—★—

AHPC Increases Earnings

American Home Products Corp., New York, recently reported net income for the first six months of 1961 of $24,863,183, equal to $3.21 a share. In the corresponding first half of 1960 the company cleared $24,313,649, or $3.15 a share.

German Soap and Detergent Industry 1956 - 1960

(expressed in 1000 DM — four DM equal one dollar)

	1956	1957	1958	1959	1960
Soaps	217,147	231,329	232,399	248,969	265,574
Detergents	508,393	570,095	571,169	678,920	718,798
Total	725,540	801,424	803,568	927,889	984,372
Toilet soap	114,291	126,944	130,362	144,831	155,921
Household soap	32,689	30,314	27,413	25,873	25,124
Shampoos		25,270	28,154	32,482	38,167
Soft soap	13,000*			12,000*	12,300*
Shave cream	10,400*				12,000*
Shaving soap	9,065	8,575	7,515	7,504	7,171
Soap flakes, chips	8,669	7,910	7,942	8,186	8,069
Textile soap	911	1,151	1,274	1,117	993
Indust'l curd soap	2,378	1,799	1,234	1,068	1,124
Special soaps	2,614	1,927	1,944	2,256	2,253
Liquid soap	10,992	3,393	3,634	2,247	2,432
Heavy duty syndets	278,614	315,270	317,624	402,351	415,835
Light duty syndets	127,915	141,801	136,540	144,856	173,830
Laundry auxiliaries (bleaching, soaking, rinsing agents)	62,723	67,291	68,341	78,069	67,995
Hand cleaners	27,404	31,408	32,654	36,482	37,889
Scouring cleansers	11,737	14,325	16,010	17,162	23,249

* Aproximate figures.
(These statistics appeared in *Seifen-Oele-Fette-Wachse*, Aug. 30, 1961, pp. 543-4, article by Otto S'egel, Bonn)

Union Carbide Appoints

Richard S. Abrams has been appointed manager of development, Union Carbide Olefins Co., and James C. Malone has been appointed general manager of the silicones division of Union Carbide Corp., New York succeeding Mr. Abrams, it was announced recently.

Mr. Abrams, who joined Union Carbide in 1941, was formerly general manager of the silicones division since 1957. Mr. Malone, also with the firm since 1941, was formerly assistant to Mr. Abrams.

—★—

Benson Storfer Honored

Benson Storfer, former president of Parfums Corday, Inc., New York, was honored recently on his 50th anniversary in the fragrance industry. Mr. Storfer, who was president of the company since 1931, was feted at the first sales meeting of Parfums Corday as a wholly-owned subsidiary of Max Factor & Co., Hollywood.

—★—

Neville Buys West. Organic

Neville Chemical Co., Pittsburgh, Pa., Sept. 21, purchased a controlling interest in Western Organic, Inc., Santa Fe Springs, Calif. Western makes paradichlorobenzene, orthodichlorobenzene, and related products. Neville is a producer of hydrocarbon resins, solvents and plasticizers.

Western Organic will be operated as a subsidiary of Neville, according to Lee Dauler, Neville president, who announced the acquisition.

—★—

Charles of the Ritz Sales

Net sales for the first six months of 1961, reported by Charles of the Ritz, Inc., New York, and its wholly-owned subsidiaries, were $13,405,299, down from $13,786,640 in 1960.

Net income for the period was $593,206, equal to 59 cents per share, down from $637,520 and 64 cents a share, for the same period in 1960. Net income is based on one million shares outstanding.

Propellant Ban Extended

At a recent meeting of the Board of Fire Prevention Regulations of the New York City Fire Department dealing with the matter of flammable gases being used as propellants in aerosols, the board ruled that no flammable gases shall be used as propellants in aerosol containers for hair sprays, room deodorants, shoe sprays, shave creams, insecticides, etc.

Effective date of the ruling has not been set as yet, nor has the ruling been made law by publication in the *City Record*.

This latest action of the New York City Fire Department, pertaining to flammable gases in aerosols was learned of exclusively early this month by *Soap and Chemical Specialties*.

An earlier amendment to the fire regulations which banned the use of flammable propellants in such aerosol products as hair sprays, paints, varnish, lacquer and shellac, has not been put into effect as yet, it was reported at the fire department hearing in New York, Sept. 14.

—★—

Cyanamid Names Bourland

James F. Bourland has been named assistant general manager of the agricultural division of American Cyanamid Co., New York, it was announced recently. Formerly general manager of Cyanamid's central research division, Dr. Bourland will make his headquarters in the company's new agricultural center at Princeton, N. J.

He joined Cyanamid in 1941 as a research chemist at the company's Bound Brook, N. J. plant, remaining there for five years in technical and supervisory posts. In 1946 Dr. Bourland was named chief chemist in the pharmaceutical department at the company's Willow Island, W. Va., plant and later became assistant manager of both the Willow Island and Marietta, O., plants.

Returning to Bound Brook in 1954 as technical director of the organic chemicals division, Dr. Bourland was named to a similar post in the engineering and construction division two years later. He became assistant general manager of the research division in 1957 and was appointed general manager the following year.

—★—

Plax Elects Board Member

Felix N. Williams, vice-president of Monsanto Chemical Co., St. Louis, was recently elected to the board of Plax Corp., Hartford, Conn. Plax Corp, is owned equally by Monsanto, and Emhart Manufacturing Co., Hartford, Conn. Mr. Williams, a member of the Monsanto executive committee, is also a member of its board of directors.

—★—

Dale Reding Joins Maas

Dale Reding has been appointed sales manager in Northern California and the Pacific Northwest for A. R. Maas Chemical Division of Stauffer Chemical Co., it was announced late in September. Mr. Reding will make his headquarters at Richmond, Calif.

Mr. Reding has represented Victor Chemical Works, Division of Stauffer in Chicago and seven midwestern states. During the past five years he has been with Victor in Kansas City.

—★—

Vulcan Names Coleman

Henry M. Coleman, Jr., has been appointed to the staff of Vulcan Steel Container Co., Birmingham, Ala., as a factory sales-service representative for the Mississippi and Louisville territory, it was announced recently.

Henry M. Coleman, Jr.

Dr. Plechner Visits West

Dr. Sophie Plechner, president of the Society of Cosmetic Chemists, is currently presenting her "president's report" at special meetings of the society's local chapters. On Oct. 10 she spoke before the Chicago Chapter and was to have addressed the California Chapter in Los Angeles, Oct. 16. Each group receives a detailed report on the society's activities on a national level.

After a brief vacation on the coast Dr. Plechner will return to New York in time to address the local chapter's meeting Nov. 1.

—★—

New Chemical Line

Gray Chemical, Inc., Gloucester, Mass., recently announced the availability of alkali metal dispersions in various media. Sodium, lithium or potassium dispersions in micron range are now offered either as a slurry or solid form.

—★—

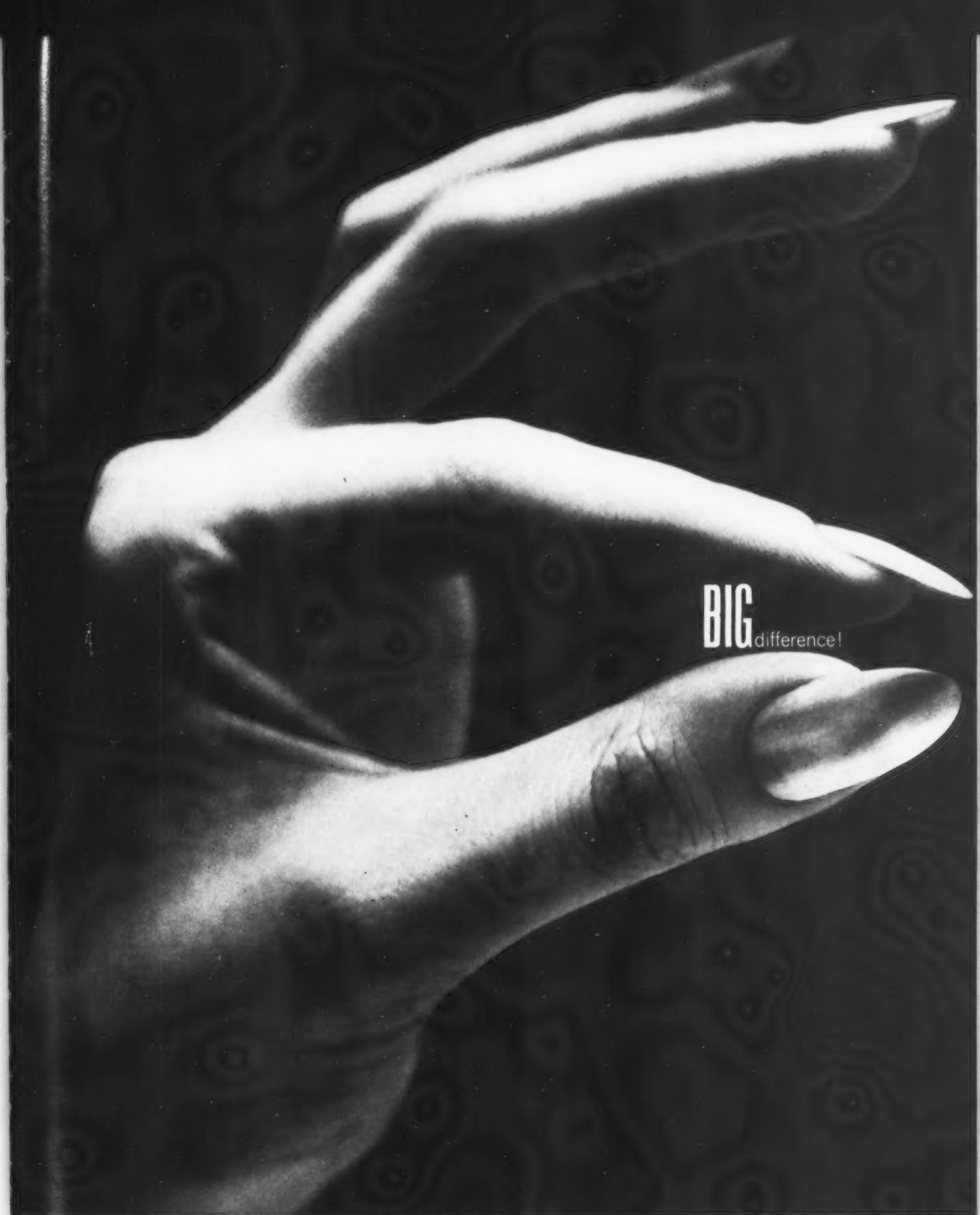
One Step Floor Product

A new gel type combination product claimed to clean, strip, seal and cover floors with a polished slip resistant finish in one polishing machine operation has just been introduced by Fuld Brothers, Inc., 702 South Wolfe St., Baltimore 31.

Designated "Dri-Method," the polymer cleaner-polish, eliminates all wet floor care operations and separate wax application, buffing, and stripping according to Fuld. The product is said to be suitable for use on asphalt, rubber, vinyl plastic, wood, marble, terrazzo, linoleum, and other hard surface floors. Since most of the old finish is removed with the surface soil, effects of "build-up" are eliminated.

Good color characteristics, wear and scuff resistance, and rebuffability are claimed for the product. One gallon of the polish is said to clean and finish 6,000 to 10,000 square feet of floor area.

"Dri-Method" cleaner-polish comes in five gallon drums (40 pounds) and is available under distributors' private labels.



Someone once said that if Cleopatra's nose had been a millimeter longer, it would have changed the history of the world. The littlest difference often makes the biggest difference! Take fragrance. The fragrance of one of your products, for example. Perhaps you're not quite satisfied with it. Perhaps all it needs is a minuscule change. Here is where the man from Felton can help. Working with you, discussing your specific problems, your specific market, he can effect the simplest change that will make a pleasing fragrance an irresistible one. The result of thirty-eight years of experience with perfume oils, this little difference makes the big difference that turns impulse buying into strong brand loyalty! Felton Chemical Co., Inc., 599 Johnson Ave., Brooklyn 37, N.Y.

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☐ 2. **Handbook of Pest Control**, by Arnold Mallis. New edition, 1132 pages, 26 chapters. Over 250 illustrations. Covers all types of household and industrial pests, insects, rodents, etc., their life cycles, habits, identification and the latest chemicals, methods and techniques for their control. Deals with rats and mice, silverfish, roaches, earwigs, termites, decay fungi, beetles, bedbugs and other bugs, clothes moths, bees and wasps, spiders, lice, fleas, flies, mosquitoes, mites, ticks and others. **Price $12.50.**

☐ 3. **Surface Active Agents and Detergents**, by Schwartz-Perry. Two volumes. Volume 1.: 590 pages, illustrated. Covers processes for synthesizing and manufacturing surface active agents, physical chemistry of surface active agents and practical applications of surface active agents. **Price: $15.00.** Volume II: 860 pages, illustrated. Covers processing for synthesizing and manufacturng surfactants, special function surfactants and compositions, the physical and colloidal chemistry of surfactants and practical applications of surfactants. **Price: $22.50.**

☐ 4. **Detergent Evaluation and Testing**, by Jay C. Harris. 220 pages, 26 illus., 15 tables. A critical selection of methods and procedures for the testing of detergents. **Price: $4.50.**

☐ 5. **Fatty Acids: Their Chemistry, Properties, Production, and Uses.** Second Revised Edition, edited by Klare S. Markley. New edition, in Four Parts, has been enlarged and brought up to date, covers the chemistry and the physical properties of the fatty acids, plus detailed description of processes for the production of fatty acids and their uses. Part I: 724 pages, illustrated. **Price: $22.50.** Part 2: 778 pages. **Price: $27.50.** (Parts 3 and 4: In press).

☐ 6. **Aerosols: Science and Technology**, by H. R. Shepherd, Edward Sagarin, et al. 562 pages, abundantly illustrated. Covers all aspects of the modern aerosols industry from manufacturing operations to applications in all types of products. **Price: $22.50.**

☐ 7. **Systematic Analysis of Surface-Active Agents**, by Milton J. Rosen and Henry A. Goldsmith, Vol. 12. A series of monographs on analytical chemistry and its applications. (1960) 439 pages, 47 illustrations, 28 tables. **Price: $14.50.**

☐ 8. **Handbook of Cosmetic Materials**, by Greenberg-Lester. 467 pages. Covers the properties, uses and toxic and dermatological actions of over 1,000 materials selected in response to a questionnaire sent to cosmetic manufacturers. Includes a chapter on the skin by Howard W. Haggard, Director, Applied Physiology Laboratory, Yale University. **Price: $14.50.**

☐ 9. **Soap Manufacture**, by Davidson et al, in two volumes. Volume 1: 537 pages, 66 illus., 118 tables. Covers the history of the soap industry, theoretical principles of soap manufacture, raw materials of soap manufacture and the fatty raw materials. **Price: $13.50.** (Volume II in preparation)

☐ 10. **Cosmetics: Science and Technology**, edited by Edward Sagarin. 1453 pages, 138 illus., 107 tables. Covers origin, development of cosmetic science and discusses individual products such as hand creams, suntan preparations, skin lighteners, shaving soaps and creams, nail polishes and removers, deodorants, aerosol cosmetics and many other cosmetic and toiletry products. **Price: $19.50.**

☐ 11. **International Encyclopedia of Cosmetic Material Trade Names**, by Maison G. de Navarre. Nearly 400 pages of the most complete listing of all the materials of the world used in cosmetic manufacture. Includes quick, concise descriptions of approximately 4,000 materials and the names and addresses of the suppliers, as well as a cross-index of the materials and their uses. **Price: $7.50.**

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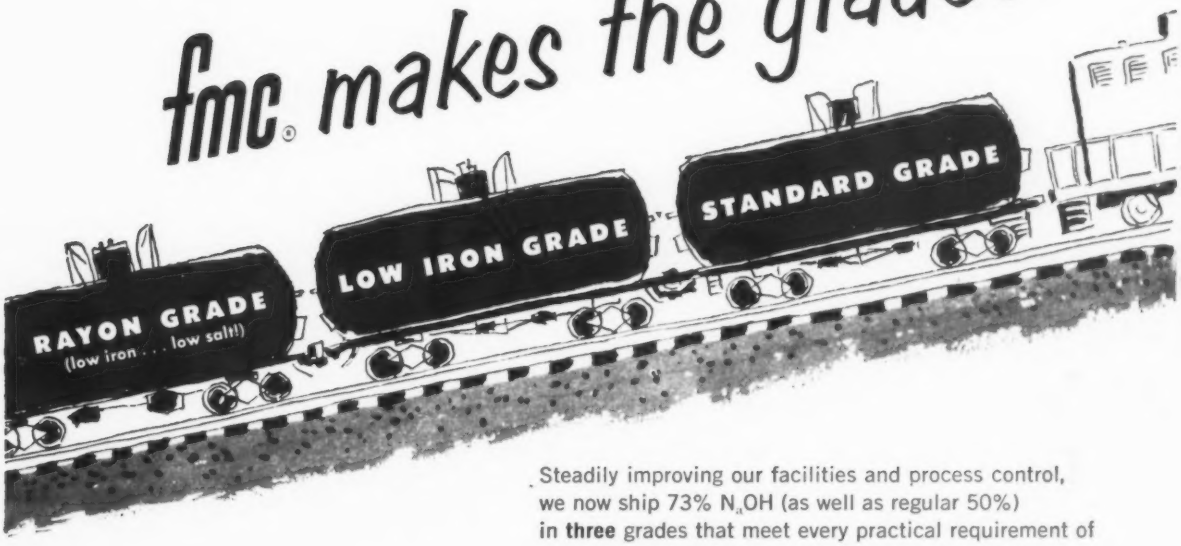

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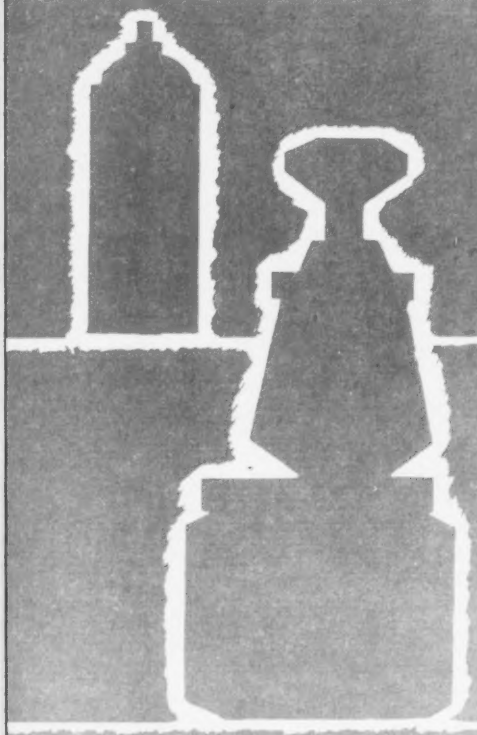

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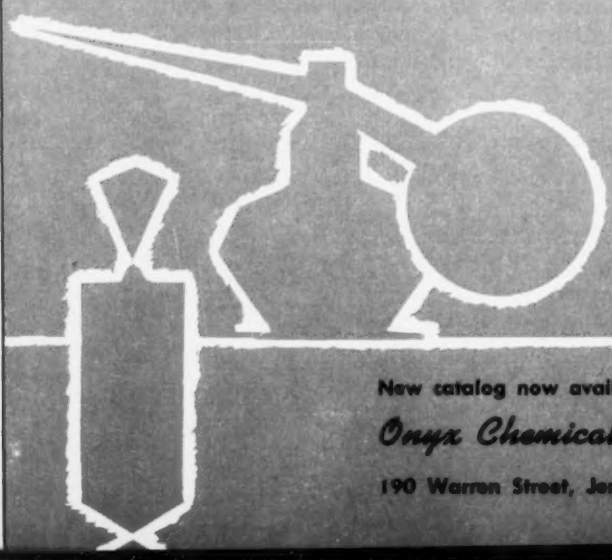

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Every time an advertisement is seen, it has a *chance-to-sell*. And research by Politz* has measured these *chances-to-sell* to magazine readers who recently bought detergents or laundry soap:

In the Digest	33,925,000
In Look	16,592,000
In the Post	16,197,000
In Life	14,574,000

Chances-to-sell to these buyers *per dollar* invested in a 4-color page are shown at the left. Note . . . the Digest provides about twice the *chances-to-sell* of its nearest competitor . . . typical of the advantage you get advertising any 'type of product in Reader's Digest.

**Source: Alfred Politz Media Studies*

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SURFONIC® products lead nine lives in the textile industry

Virtually every operation in the textile industry that utilizes water also uses surfactants . . . some 75 million pounds annually. Nine of the better-known applications are in: Kier Boiling, Open-Width Scouring, Bleaching, Mercerizing, Slashing, Desizing, Dyeing and Printing, Soaping Off, and Rewetting.

SURFONIC surface-active agents, which are adducts of ethylene oxide and nonyl phenol (N-series 10 to 300), improve diverse textile processes. These adducts are nonsubstantive to wool and will scour a greater poundage than anionic agents or soap, before exhaustion of the bath. Either SURFONIC N-95 or N-120 functions effectively with the soda ash solutions normally used in wool scouring. These products rapidly wet and emulsify the wool grease in degreasing operations, and are also used in kier boiling of cotton.

SURFONIC N-95 is recommended for scouring goods preparatory to dyeing, and removing knitting oils from woolens. By improving penetration of sulfuric acid into the fiber, SURFONIC N-95 becomes a useful wool-carbonizing assistant. It retains its wetting action even though a relatively concentrated solution of acid is used.

Jefferson surface-active agents extend from the completely water soluble-oil insoluble to the completely oil soluble-water insoluble. Lower numbered, non-water-soluble products may be used as foam reducing agents. SURFONIC N-40 may be sulfated to give water-soluble, light colored anionic compounds useful in household detergents. Higher numbered, water-soluble products are suited for elevated temperature operations, and are relatively high foamers. Other SURFONIC surface-active agents for specific applications can be made on request . . . let Jefferson help with your custom formulations.

FONIC®

SURFACE-ACTIVE AGENTS

SPECIFICATIONS

		N-10	N-20	N-40	N-60	N-95	N-120	N-150	N-200	N-300
Specific gravity, 20/20°C.	min.	0.960	1.004	1.020	1.037	1.057	1.069	1.058(30/4)	—	—
	max.	0.995	1.007	1.030	1.044	1.064	1.071	1.071	—	—
Cloud point, ml. of H_2O or °C.	min.	8.5 ml.	15.5	30 ml.	68 ml.	52°C.[1]	50°C.[2]	63°C.[2]	72°C.[2]	—
	max.	12.0 ml.	19.0	36 ml.	89 ml.	56°C.	54°C.	67°C.	73°C.	—
Color, Pt-Co scale	max.	500	300	200	200	100	200	200	200	200
Viscosity, 210°F. SUS	min.	43	47	51	57	67	74	88	—	150
	max.	48	50	54	60	70	77	90	—	170
Water, wt.%	max.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Odor at room temperature		Not objectionable								
Appearance		All products are clear and substantially free of suspended matter.								

(1) 1% aqueous (2) 1% in 10% brine

SELECT PROPERTIES

	N-10	N-20	N-40	N-60	N-95	N-120	N-150	N-200	N-300
Flash point (open cup), °F.	355	375	435	475	500	525	500	550	—
Weight, 20°C., lbs./gal.	8.1	8.35	8.5	8.7	8.8	8.9	8.95	9.0	9.1
Foam height, 120°F., mm. initial, 0.1 wt.%	5	5	10	12	80	110	120	—	—
Wetting time, Draves, sec. 0.25%, 1.5 g. hook	—	—	12	6	3	7	17	—	—
Freezing point, °C.	—	—	—	<0	5	14	23	34	44

SHIPPING AND HANDLING

SURFONIC Surface-active Agents are available in coiled tank cars, tank wagons and 17E non-returnable steel drums of 430-480 pounds capacity, from our Port Neches plant or terminals throughout the country.

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TECHNICAL INFORMATION

The information contained here is necessarily limited . . . for helpful detailed data and applications, ask for our "SURFONIC Technical Brochure" . . . Jefferson Chemical Company, Inc., 1121 Walker Avenue, P. O. Box 303, Houston 1, Texas.

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as the editor sees it...

AEROSOLS

Although a month ago, the New York City Fire Department seemed quite certain to extend the ban on hair spray, paint, lacquer and similar aerosols to include all aerosols using butane or propane as propellants, the situation seems to have changed. Later reports indicate that New York City is reviewing the situation and that the fire department may take another look at the whole matter even to receiving additional briefs, technical facts and other information from interested parties. From this, it might be assumed that the ban, enforcement of which is temporarily being held in abeyance, may be far less drastic than at first planned.

That full enforcement of the regulation would cause widespread hardship among aerosol marketers and loaders is quite evident. Not only in New York, but in other cities which might follow suit. In fact, Boston is already reported looking into the matter. We feel that the New York Fire Department is doing the smart thing in taking a closer and harder look at the situation and getting further testimony of experts.

* * * * * *

WARNING

As an aftermath of the rash of staphylococcus infections which hit hospitals all over the country a couple of years back and during the succeeding period, many new firms entered the field of supplying hospital disinfectants and many new products came to market. This has brought complicating problems for the U. S. Department of Agriculture which enforces the Insecticide, Fungicide & Rodenticide Act under which all disinfectants are regulated.

USDA reports that about 20 per cent of the products now on the market are ineffective against staphylococcus. There has been a wide breakdown in compliance with the law; 25 per cent of products picked up by USDA do not comply. Four per cent are not even registered with USDA as required by law. All of which indicates a rather nasty situation.

To those firms which may be new in the field or whose products are new, we want to warn them that they should make certain that their products comply with the law. Otherwise, they may have the wrath of USDA on their heads. Heavier penalties will be invoked by USDA in one way or another to correct this bad situation. To the old-line suppliers of disinfectants whose products are known to meet the law's requirements rigidly, this warning is undoubtedly unnecessary. The newcomers, some are obviously quick-buck artists, are the chief offenders. An unheeded warning could be expensive.

* * * * * *

MUMBO JUMBO

The consumer magazines and associations have been poking a lot of fun of late at the various and sundry sizes of packages of detergents, soaps and cleansers on the market. And to a considerable extent with pretty good reason. We note the regular size which is obviously quite a small package. Then we have the alleged "large" size which is still not very large, and then the "giant" and "jumbo" sizes. All of which becomes even more ridiculous when we consider the odd and unusual weights of the packages and the variations from brand to brand.

Recent Senate hearings on confusing packaging have focused the spotlight on these variations and on those of food packages. They have made a lot of people suspicious that the reason detergents and cleansers are packaged in odd sizes and given somewhat exaggerated designations is to fool the housewife, to prevent her from calculating how and where she gets the most for the money. And the arousing of any such suspicion is wrong and wholly unnecessary.

Of the multiplicity of products which go into the average household budget, soaps, cleansers and detergents need no apology on price. By comparison with household commodities in general, soap prices have advanced but slightly over the past decade. They still consume but little of

BALANCING ACT. Ever try to balance a paper cup of water on your finger? It takes perfect control . . . so does manufacturing of the chemicals used in purifying water and in making the paper for the cup. At Arkla we maintain constant quality control of the chemical manufacturing processes. We think speedy delivery is important, too, and one order will convince you of our fast service. May we take your order?

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household funds. So why all the phenagling about package weights and designations? Competition? Probably. But is it smart?

We have also noted recently that studies show savings on the larger packages of detergents and cleansers average 15 per cent. But in some instances, the small sizes sell at lower prices per ounce than the larger packages. Not too sensible a situation for those who take the trouble to compare, — probably one in a thousand who reads the label and figures it out. Still a situation which tends to arouse suspicion and offers the excuse for senatorial investigations.

* * * * *

WINDOW DRESSING

The Institutional Research Council, Inc., the new group which is out to establish expanded lists of so-called certified products, has recently mailed forms to 529 manufacturers and suppliers of cleaning and maintenance materials urging them to sign up with the new outfit. The deadline for submitting products for the 1962 list is given as November 15. The objectives of the Council are listed as a "coordinated research program, development of product standards and sponsorship of the certified products program formerly operated by the American Hotel Association."

To us, the research program and product standards are just so much window dressing. The real thing they are after is the approved list of products, a list which does not protect the buyer and which could make a beautiful haven for the crook and chiseler to ply their trades. We urge manufacturers and all other suppliers not to be enticed into a deal of this kind. It can be very costly, wholly meaningless and is being vigorously opposed by the soap, chemical specialties and sanitary supply associations.

* * * * *

DISINFECTANT?

"Soap, water and common sense add up to a good disinfectant." This is a quote from a "health" column written by Dr. Theodore R. Van Dellen in the Chicago *Tribune* under the heading "Today's Health Hint." This, we feel, is another case of a doctor going off the deep end on a subject about which he is obviously unenlightened. Soap, water, "and common sense" — whatever he means by that — do *not* add up to a good disinfectant or for that matter to any disinfectant at all.

That soap, water and over-all cleanliness are valuable adjuncts in preventing the spread of disease, we have no doubt. But it is misleading to state that they disinfect when they do not. Mechanical removal of disease germs is one thing; killing them by germicidal action is another. Disinfectants are germ killers with positive germicidal action or they are not disinfectants.

All this has been brought rather sharply into the spotlight during the past couple of years by the widespread epidemic of staphylococcus infections in American hospitals. The sale of disinfectants to hospitals has increased greatly over this period especially for the treatment of walls, floors, beds and other equipment. Obviously the use of disinfectants was needed as events have proved. So, once again, we suggest that the good doctor leave the prescription of disinfectants to those who know the score.

* * * * *

PATENTS

For those interested in dull literature and dry reading, a perusal of the pages of the *Official Gazette* of the U. S. Patent Office is often enlightening. Of late, we have noted a literal maze of patents granted for new packaging ideas, new cartons, bottles, jars, cans, bags, pouring spouts, reclosable closures, — and a lot of machines for handling these new contrivances. We assume that for each new detergent, polish, breakfast food or pickled herring brought out, there must be two new patented containers. Patiently we wait for the arrival of a patented carton for little Petunia's breakfast sawdust which will play nursery music or have a cardboard rabbit hop up and say "good morning." We feel, it's got to come.

And with this great multiplicity of new package patents, the thing which amazes us is the large number of really lousy packages which still stand on the store shelves. To open some of them and extract the contents would tax the patience of a saint. While still others are all package and contents of dubious quality. In the meantime, the package patents are rolling off the production line. More new packaging gadgets than fleas on a mongrel, — but they seem to take such a long, long time to reach Mrs. McGuff, the ultimate consumer.

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as the reader sees it...

14 Years Later

Editor:

Kindly let me know if you have the address of the Packard Container Corp. I sent them a letter in answer to their ad in SOAP Magazine and the letter was returned address unknown.

This ad was in SOAP & CHEMICAL SPECIALTIES dated October, 1947. Their address was given as 5811 Park Av., West New York, N.J. If you can send me their correct address, I will be very glad.

J. C. Schneiderhan
Kingston, Pa.

Fourteen years later, Mr. Schneiderhan answers the Packard advertisement. We feel this is a record of some kind. We have sent him the correct current Packard Container address, which is 222 Grant St., Hoboken, N.J. Old advertisements never die. It seems that they just go on forever! Ed.

—★—

Caption Mix-up

Editor:

On page 185 of the August issue of *Soap & Chemical Specialties* the caption under the photograph easily leads to an incorrect inference.

Actually, this photograph does not pertain to "Baggies" at all. The photograph which does show the "Baggies" is on page 113 of the article "Plastics for Packaging."

A. J. Sanders
Supervisor, Package Construction
Colgate-Palmolive Co.
New York 22, N. Y.

—★—

"Wrong Town . . ."

Editor:

The April 1961 issue of *Soap and Chemical Specialties* included a very nicely presented photo and caption of a spray dryer at the Carteret, New Jersey plant of American Agricultural Co. This appeared on the cover page of your "Production" section.

Unfortunately there was an error in the caption. You state that the spray dryer was built by Bowen Engineering, Inc., Long Beach, N. J. Bowen Engineering, Inc. did indeed build the dryer but the company is located in North Branch, N. J.

Ray Waters
Publicity Director
F. P. Walther, Jr. and Associates, Inc.
New York 22, N. Y.

—★—

Moore Joins P&G Research

Theron L. Moore, a recent Ph.D. from the University of California at Los Angeles, has joined the research division of Procter & Gamble Co., Cincinnati.

—★—

ASTM Changes Name

The American Society for Testing Materials officially became the American Society for Testing *and* Materials with the signing of a court decree, Sept. 18, 1961. The society's original charter dates back to 1902. ASTM was founded in 1898 "for the promotion of knowledge of materials of engineering and the standardization of specifications and the methods of testing".

A Division of Materials Sciences was established two years ago to further stimulate work in the field of materials research, according to ASTM president Miles N. Clair, who announced the change in title.

—★—

N H E Dates Set

The 46th National Hotel Exposition will be held Nov. 6-9, in the New York City Coliseum, it was announced recently. Hours on opening day are 10 a.m. to 10 p.m., and hours for the second, third, and fourth days are 10 a.m. to 6 p.m.

At the same time W. K. Seeley, general manager of the Exposition announced the dates for the 1962 and 1963 shows: Nov. 12-16, 1962 and Nov. 11-15, 1963.

Experts who discussed question "Is the Cosmetic Industry Meeting the Challenge of Color?" at Sept. 26 meeting of Cosmetic Career Women were, left to right: Dan Wynn, fashion and cosmetic color photographer; Howard Ketchum, world famous color consultant, and Lester Gaba, department store display authority. Others on dais at Waldorf-Astoria Hotel, New York, were: Kay Colton, Morningstar-Paisley, Inc., New York; Annette Green, Annette Green Associates, New York, and Ruth Drake, "Redbook" magazine, New York. Meeting was first in a series to delve into the cosmetic industry.

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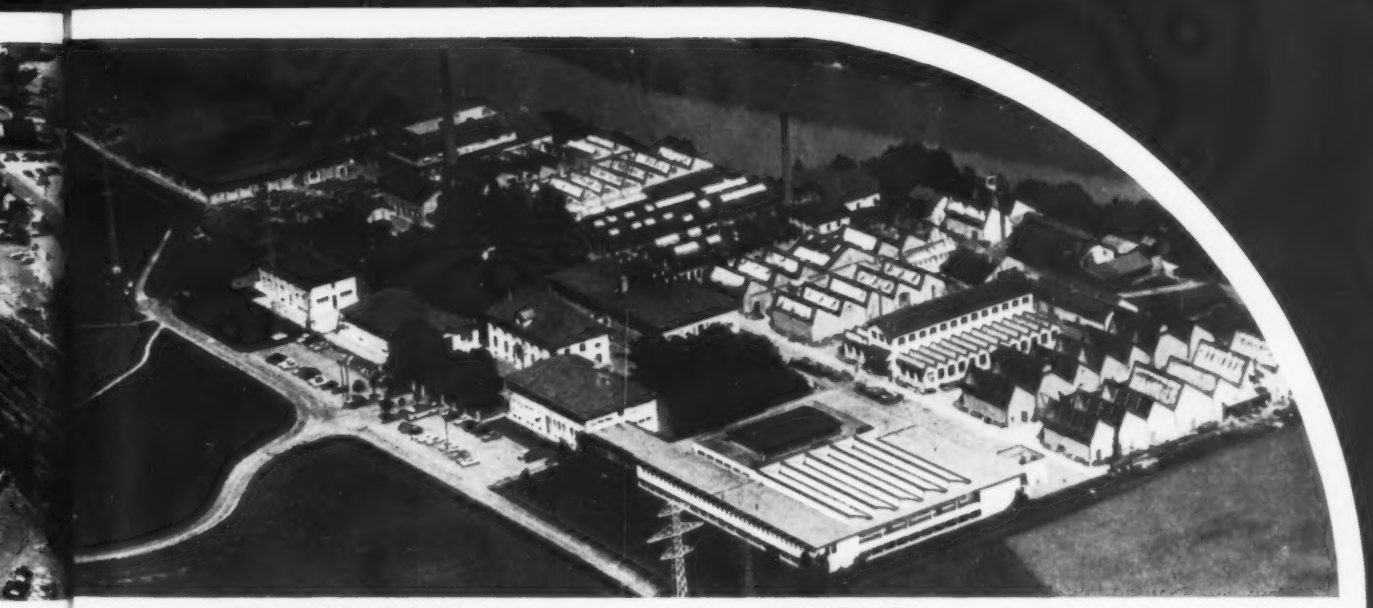

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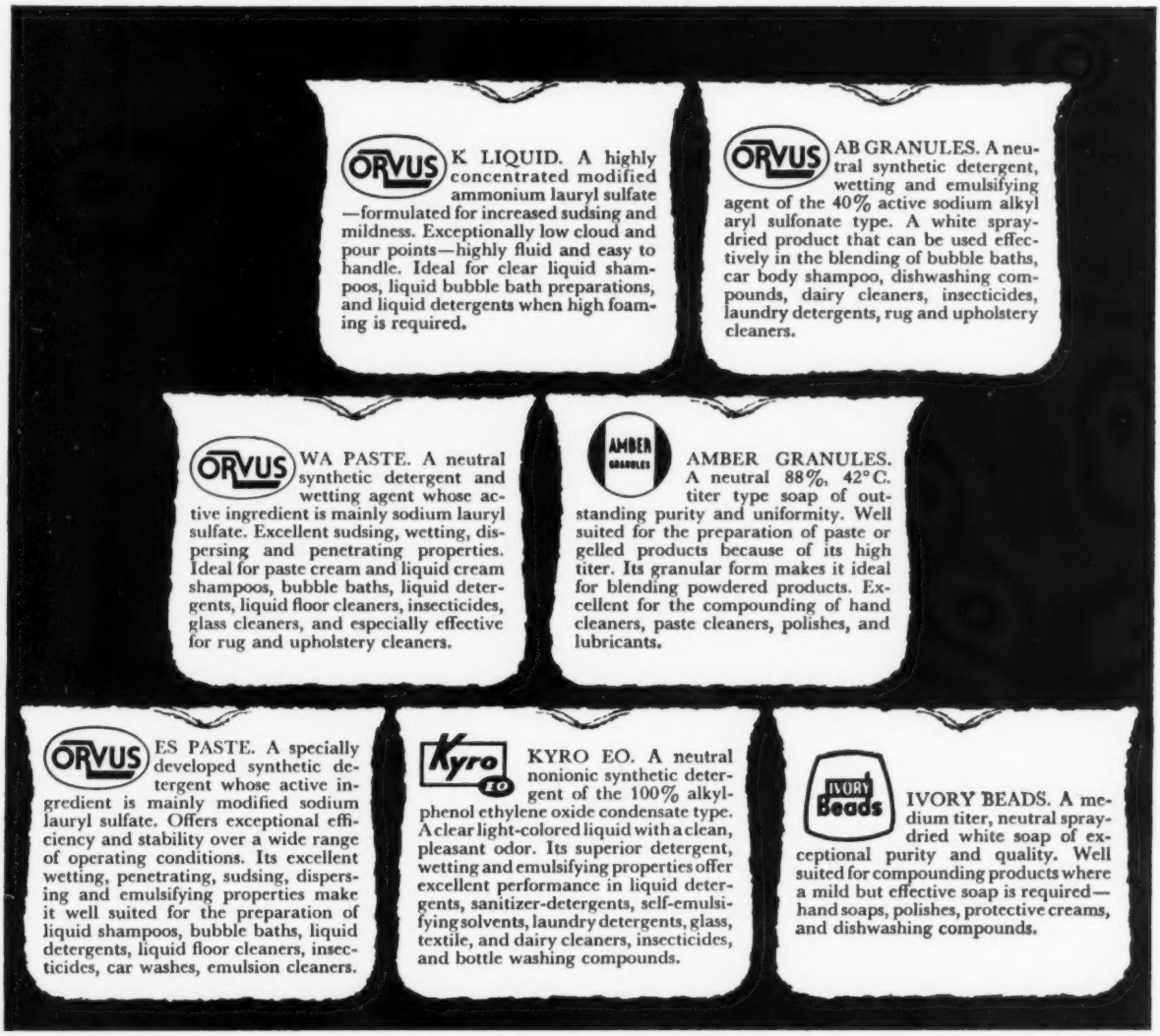
2. Use Procter & Gamble formulation assistance


ORVUS K LIQUID. A highly concentrated modified ammonium lauryl sulfate—formulated for increased sudsing and mildness. Exceptionally low cloud and pour points—highly fluid and easy to handle. Ideal for clear liquid shampoos, liquid bubble bath preparations, and liquid detergents when high foaming is required.
ORVUS AB GRANULES. A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulfonate type. A white spray-dried product that can be used effectively in the blending of bubble baths, car body shampoo, dishwashing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners.
ORVUS WA PASTE. A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium lauryl sulfate. Excellent sudsing, wetting, dispersing and penetrating properties. Ideal for paste cream and liquid cream shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, glass cleaners, and especially effective for rug and upholstery cleaners.
AMBER GRANULES. A neutral 88%, 42° C. titer type soap of outstanding purity and uniformity. Well suited for the preparation of paste or gelled products because of its high titer. Its granular form makes it ideal for blending powdered products. Excellent for the compounding of hand cleaners, paste cleaners, polishes, and lubricants.
ORVUS ES PASTE. A specially developed synthetic detergent whose active ingredient is mainly modified sodium lauryl sulfate. Offers exceptional efficiency and stability over a wide range of operating conditions. Its excellent wetting, penetrating, sudsing, dispersing and emulsifying properties make it well suited for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners.
Kyro EO KYRO EO. A neutral nonionic synthetic detergent of the 100% alkylphenol ethylene oxide condensate type. A clear light-colored liquid with a clean, pleasant odor. Its superior detergent, wetting and emulsifying properties offer excellent performance in liquid detergents, sanitizer-detergents, self-emulsifying solvents, laundry detergents, glass, textile, and dairy cleaners, insecticides, and bottle washing compounds.
IVORY Beads IVORY BEADS. A medium titer, neutral spray-dried white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required—hand soaps, polishes, protective creams, and dishwashing compounds.

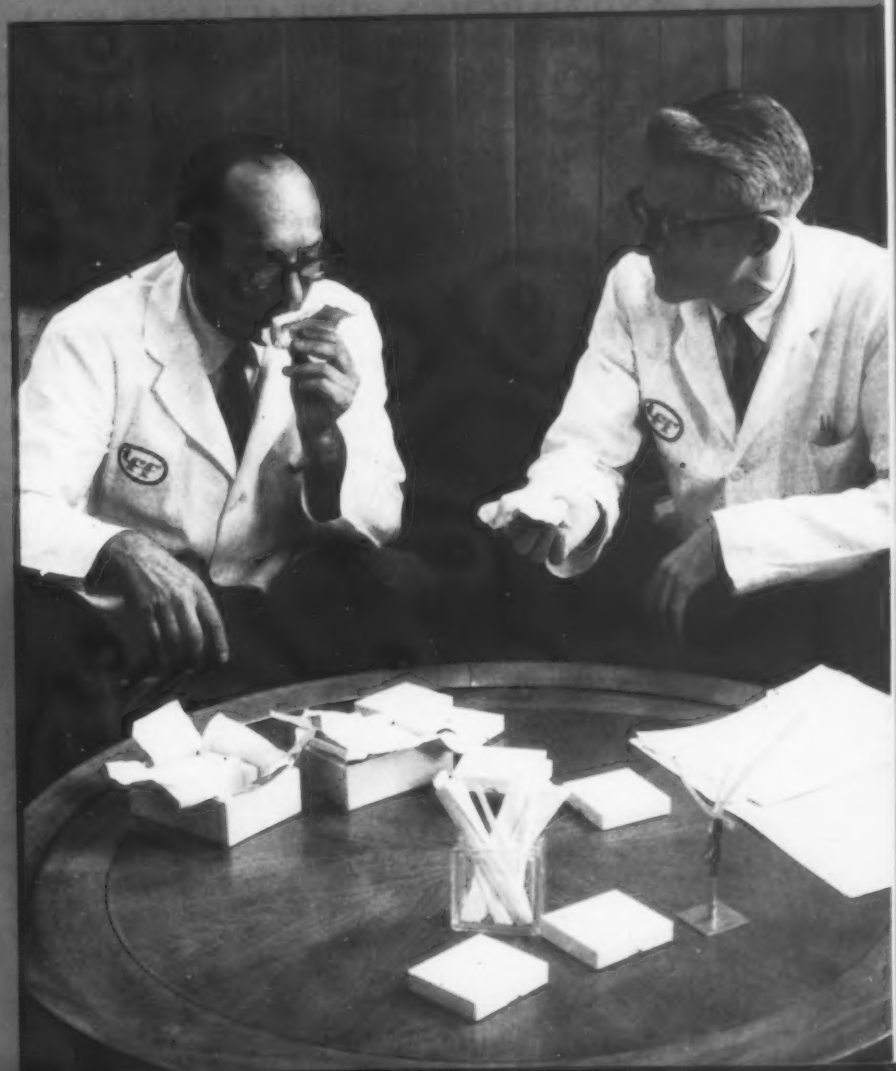
Procter & Gamble products offer you a proven way to simplify your formulation problems and be confident of successful results. We invite your inquiry for further information and the opportunity to forward an Industrial Catalogue. Write to:

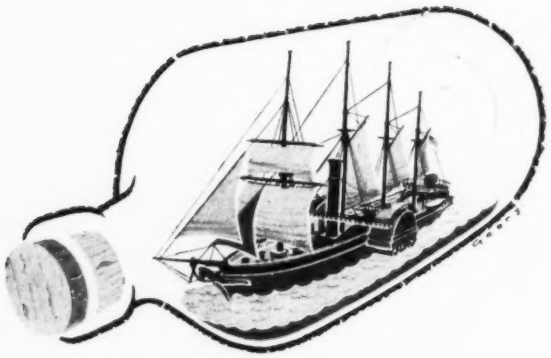
PROCTER & GAMBLE, Manager, Bulk Soap Sales Department, P. O. Box 599, Cincinnati 1, Ohio

Detergents . . . Cleansers . . . Soaps . . .

A soap perfume can only be evaluated properly after it has been given prolonged aging in the soap cake itself. Here, two perfumers of International Flavors & Fragrances, Inc., New York, check foil wrapped soap samples. See article on "Changing Fashions in Soap Perfumes," part II of which begins on page 56.

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Medicinal soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Textile detergents
Toiletries
Toilet soaps
and other detergent
and soap products





IT'S A SMALL WORLD

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ST

Evaluation of four

Hospital Detergent-Sanitizers

By L. J. Vinson, Ph.D.*, P. Dineen, M.D. and W. Schneider*,**

THE problem of cross-infection in hospitals involving staphylococci and other pathogens is of great concern not only to hospitals but also to the community, nation and the world. Much has been written about the extent and severity of cases of cross-infections, their causes and treatments and the need for coordinating the efforts of medical personnel, housekeeping services and the laundry staff (1-13). Recently, Dineen reported on the problem and described methods which have been successful in the control of cross-infections at the New York Hospital (14).

Hospitals have been literally flooded with a wide variety of antiseptic agents and disinfectants (claiming to be the answers to hospital infection problems). Representative of these preparations are phenolics, iodine complexes, organo-metallic compounds, as well as quaternary ammonium compounds. These germicidal preparations do not always possess all of the features deemed desirable for use as hospital disinfectants or antiseptics. Properties of a germicide considered important are:

1. Antibacterial activity should be demonstrated under actual use conditions. In the case of a laundry antiseptic, bacteriostatic activity should be evident on fabrics and for disinfectants kill should be achieved in contact with surfaces contaminated with bacteria.
2. A commercial germicide should be compatible with other agents with which it may come in contact under use conditions. For example, it is desirable that laundry antiseptics maintain activity in the presence of detergents, laundry bluing, laundry sour, starches, bleach and special finishing oils.
3. Treated surfaces should maintain antibacterial activity in the presence of organic soil, including blood.
4. The product should exhibit a broad spectrum of activity against gram-positive and also gram-negative bacteria. Action is desirable against fungi including the mildew organisms and heat-resistant microbial spores.
5. Surfaces treated with antiseptic or disinfectant should maintain their antibacterial finish for prolonged periods.
6. Germicidal preparations should not be irritating to mucous membranes and skin. It is important that non-toxicity exist not only at the dilution levels employed, but also at full strength to protect the handlers of the products.

It is the purpose of this report to present biological data on products containing polybrominated salicylanilide* which fulfill all the aforementioned requirements for an effective hospital antiseptic or disinfectant. Because of its excellent action against staphylococci and other pathogens, and its wide margin of safety under use conditions, polybrominated salicylanilide is ideally suited in products to sanitize laundry, disinfect hard surfaces and degerm skin — three problem areas contributing to hospital cross-infection. Four hospital products containing polybrominated salicylanilide have been formulated to control bacterial contamination in these three problem areas. They are:

1. SBT-12 Laundry and Hard Surface Sanitizer
2. SBT-12 Antiseptic Spray
3. SBT-24 Cleanser-Disinfectant
4. SBT Surgical Scrub

Properties

1. SBT-12: SBT-12 is a straw-colored liquid containing 3.1% polybrominated salicylanilide in alcoholic solution made alkaline with potassium hydroxide. Its flash point (open cup) is 100° F. The product is soluble in water at all dilutions. SBT-12 itself and SBT-12 treated surfaces are stable to heat and light.

2. SBT-12 Antiseptic Spray: SBT-12 Antiseptic Spray is an aerosol preparation of 1% polybrominated salicylanilide in ethanol in the presence of a standard propellant mixture (Nos. 11 and 12). The average particle size of the active ingredient in the spray is 3.3 μ in diameter.

3. SBT-24: SBT-24 is a liquid germicidal cleanser containing a combination of polybrominated

*Lever Brothers Co., Research Center, 45 River Road, Edgewater, N. J.

**From Bacteriology Research Laboratory of Department of Surgery, Cornell University Medical College, 1300 York Avenue, New York 21, N. Y.

The studies at The New York Hospital-Cornell Medical Center were supported in part by Contract No. DA-49-007-MD-689, Research and Development Division, United States Army.

*Approximately a 1:1 mixture of 4',5 dibromosalicylanilide and 3,4',5-tribromosalicylanilide (Supplied by Fine Organics Inc., Lodi, N. J.)

salicylanilide (PBS) and lauryl diethylene triamine. The cleansing action of SBT-24 is provided by three components: an anionic and a nonionic surface active agent plus a mild inorganic cleanser adjunct. SBT-24 disperses readily in water. It is stable to heat and light.

4. STB Surgical Scrub: SBT Surgical Scrub is a white opaque liquid containing polybrominated salicylanilide at a level of 2.0% in a unique system composed of soap and mild synthetic detergents to effect thorough but gentle cleansing and degerming of skin. The pH of the surgical scrub is 7.8, less alkaline than ordinary soap which yields a pH of 10.2 in solution.

Methods of Evaluation

1. Seeded Agar Plate Test (15): Fabric, treated with SBT-12, after drying is cut into 20 mm discs or squares and placed on agar seeded with the test organism for incubation at 37°C overnight. Inhibition of growth is indicated either by clear zones of no growth around the swatch or absence of growth in area of contact of fabric to agar as observed microscopically.

2. Broth Blood Serum Test — Bactericidal Potency: Pieces of treated fabric (one inch sq.) are

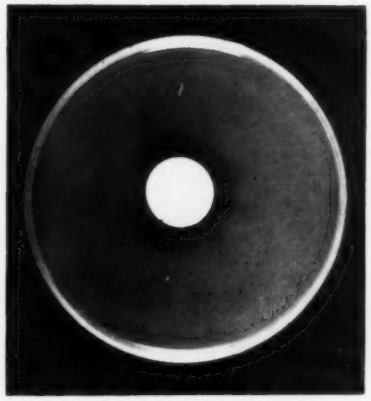


Figure 1. Hospital laundry towel, treated with SBT-12 in final rinse of laundry wash cycle, exhibits large zone of inhibition on agar seeded with *S. aureus* (Phage type 80/81).

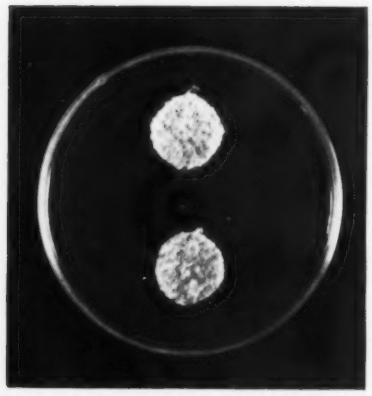


Figure 2. Hospital blanket treated with SBT-12 in final rinse of laundry wash cycle, exhibits large zones of inhibition on agar seeded with *S. aureus* (Phage type 80/81).

placed in sterile 50 ml flasks and saturated (no overflow) with several drops of a 24-hour broth culture of the test organism diluted 1:100 with 50% bovine blood serum in nutrient broth. The use of a 50% blood serum broth culture in this stage serves the purpose of determining whether the germicide can destroy the test organism in the presence of a high level of blood. The inoculated swatches are incubated over night at 37°C in sealed flasks. The following day the individual swatches are flooded with 10 ml of nutrient broth containing 10% bovine serum. The flasks are again incubated over night and observed for turibidity. Absence of cloudiness indicates complete kill of the test organism in contact with the treated swatch.

3. Broth Blood Serum Test — Sporicidal Potency: The following procedure has been developed for evaluating the sporicidal effectiveness of treated fabric. A *Bacillus subtilis* (globigii) spore strip* containing approximately 100,000 spores is placed in 10 ml nutrient broth and macerated. An aliquot of 0.1 ml of this spore suspension is then transferred to 10 ml of 50% blood serum broth. A small amount (0.6 ml) is then added to one inch squares of the test fabric (no overflow) and incubated

* American Sterilizer Co., Erie, Pa.

Figure 3A

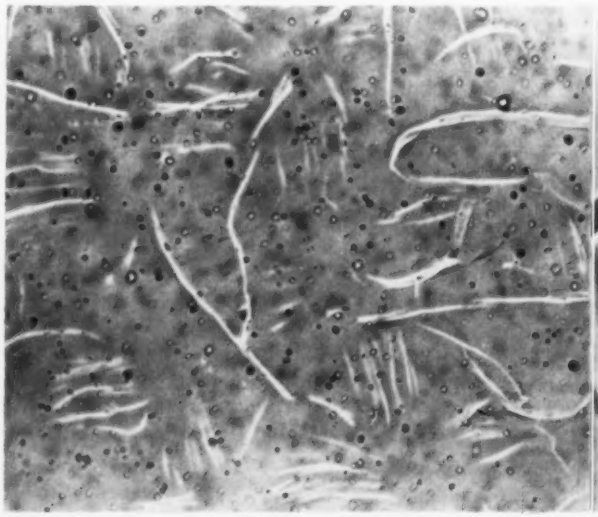
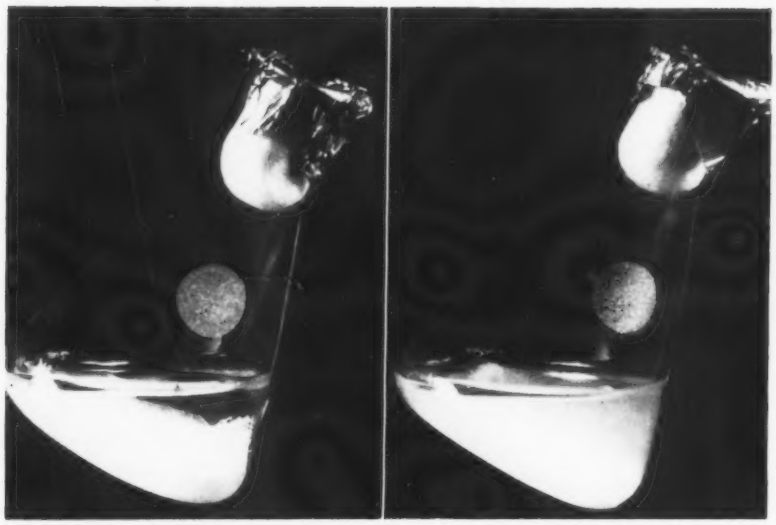


Figure 3B

Two areas of agar (magnification 100x), which have been in contact with treated and untreated cotton swatches. In A the SBT-12 treated fabric inhibits growth of bacteria (absence of colonies) and in B the untreated fabric allows bacterial growth (presence of colonies). In both figures streaks are evident, caused by contact of the fibers in the swatch with the agar.

Figure 4A Treated

Figure 4B Untreated



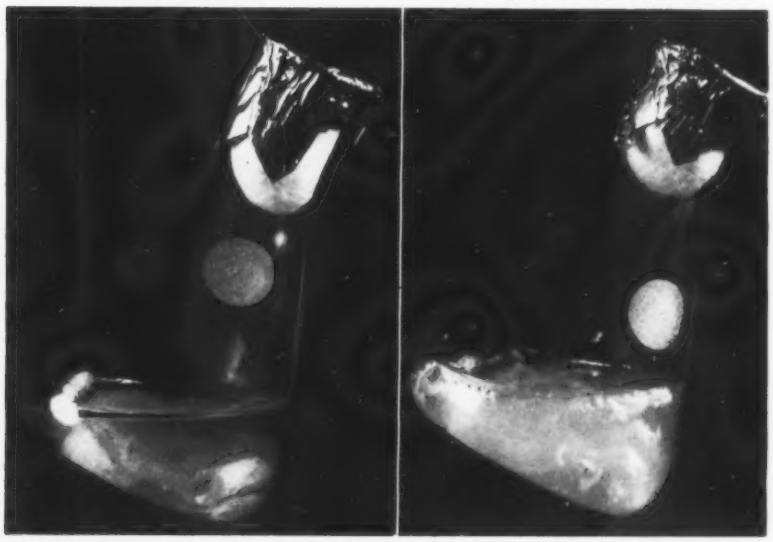
Bactericidal activity of face mask material treated in a one per cent solution of SBT-12 and inoculated with *Staphylococcus aureus* in blood serum.

overnight in sealed flasks at 37°C. After overnight incubation, the test swatches are flooded with fluid thioglycollate broth containing blood serum at a 10% level and reincubated at 37°C for seven days. Turbidity development indicates survival of spores; absence of cloudiness signifies total destruction of spores.

4. Mildew Proofing Test: The method used for evaluating the mildew resistance of cloth is from the Federal Stock Catalog (method 5751.1) and entitled Mildew Resistance of Cloth; Direct Inoculation, Pure Culture, Non-Sterile Specimen Method. This method is intended for evaluating the efficiency of fungicides in preventing damage to cellulosic fabrics. Treated fabric swatches are placed on a mineral salts agar (Bacto Mildew Test Medium) and inoculated with a water spore suspension of *Chaetomium globosum*. The plates are incubated at 80°F/80% RH and the swatches are observed for evidence of mold growth for 14 days.

Figure 5A Treated

Figure 5B Untreated



Sporicidal activity of face mask material treated in a one per cent solution of SBT-12 and inoculated with spores of *B. subtilis* (globigii). Incubation — 7 days.

SBT-12 Results

SBT-12 Treatment of Fabric at Hospital Laundries: SBT-12 added to the final rinse water of the laundry wash cycle at levels of two to four ounces per 100 pounds of cottons and 20-32 ounces per 100 pounds of blankets gave effective protection against staphylococci. The general procedure used at most hospitals in treating with SBT-12 is as follows:

1. To the freshly drawn final rinse water add laundry sour and agitate for two minutes.
2. Dilute the required amount of SBT-12 in one gallon of water.
3. Add diluted SBT-12 gradually to the rinse water while the wheel is turning clockwise. Agitate for five minutes.
4. Blueing, if used, may be added at the same time as SBT-12.
5. If a softener is used in the rinse water it is desirable to add SBT-12 first to the wheel.

Treated fabrics exhibit zones of inhibition in the seeded agar plate test against the following strains of *S. aureus*:

FDA 209 strain
Kent strain
Giorgio strain
Wolbeck strain
Cincinnati strain
Phage type 80/81

Typical results for treated linens and blankets are shown in Figures 1 and 2.

If no zone of inhibition is evident, the area beneath the test swatch is examined microscopically for evidence of bacteria. A fabric treated with SBT-12 will render this area bacteria free. (See Figures 3A and 3B)

In addition to the activity against *S. aureus* mentioned in the foregoing, fabric treated with SBT-12 will show strong activity against *Pseudomonas aeruginosa* ATCC 10145. Material treated with SBT-12 in a large hospital at six ounces

per 100 pounds of dry load gave inhibition zones of 24 mm against this organism when evaluated by the seeded agar plate test.

Bactericidal and sporicidal activity are achieved with fabric treated with one percent SBT-12. Complete destruction of *Staphylococcus aureus* and spores of *B. subtilis* was achieved under the conditions of the Broth Blood Serum Test. (See Figures 4A, 4B, 5A and 5B)

Reduction of Bacterial Counts on Contaminated Blankets Washed in a Detergent Containing SBT-12: In order to determine the efficacy of SBT-12 in reducing bacterial contamination on blankets laundered at relatively low temperatures, the following experiment was conducted:

Two series of cotton-wool blanket swatches (13 g in weight) were inoculated with 0.5 ml of a 24-hour broth culture of *S. aureus* FDA No. 209 and dried for 15 minutes at 37°C. The contaminated swatches were then washed in the following 200 ml solution for 20 minutes at 90°F:

1. 0.25% commercial anionic detergent containing 0.165% SBT-12
2. 0.25% commercial detergent control

Aliquots were taken and pour plates prepared using standard techniques. The swatches were then given two five minute rinses in 200 ml sterile water, dried and tested vs. *S. aureus* using the seeded agar plate technique.

The results are presented in Table I. From the data it is evident that the detergent solution containing SBT-12 was effective in destroying *S. aureus,* and that the blanket materials treated in these solutions retain sufficient germicide to inhibit *S. aureus* in the seeded agar plate test. The detergent solution without added SBT-12 also effected a reduction in count but large numbers still survived the 20-minute wash. Also, swatches washed in the control solution exhibited no residual antibacterial activity.

Table I. Antibacterial Activity of SBT-12 Added to Detergent in Washing of Blankets Contaminated with S. Aureus 209

Detergent	Staph Count/ml* After 20 Min. Wash	Residual Antibacterial Activity**
Detergent alone	14,300	No activity
Detergent plus 0.165% SMT-12	Zero	Zones of inhibition

*290,000 per ml of wash water initially present.
**Standard seeded agar plate test.

Mildew Proofing Activity: Desized broadcloth was dipped for five minutes in solutions varying in level of SBT-12 from 0.2-5.0 per cent. After drying, the test fabrics were evaluated against *Chaetomium globosum* using the Federal Stock Catalog method. Fabric treated with 0.3 per cent SBT-12 or higher was free of growth. The untreated controls were overgrown with *Chaetomium globosum.*

Consistency in SBT-12 Activity Against Staphylococci: SBT-12 is uniformly active against the six strains of *S. aureus* selected because of their resistance to different antibiotics. Table II shows this uniform activity of fabric treated with SBT-12 at a large West Coast hospital. The uniform activity is retained on the treated cloth for as long as two years on the basis of investigations on linen samples from storage in 10 hospitals.

Effect of SBT-12 on Tensile Strength of Treated Fabric: In order to determine the effect of SBT-12 on the tensile strength of cotton fabric the following program was conducted in a New York City hospital laundry:

A large sample of broadcloth was cut into two parts: one was treated 20 times with SBT-12 (4.5 oz./100 lbs.) and the other served as an untreated control. At the conclusion of the experiment, tensile strength readings were taken on both pieces of fabric. No significant differences in tensile strength were noted between the unwashed control and the test pieces treated with SBT-12.

Determination of Antiseptic Properties of SBT-12 Against Mycobacterium Tuberculosis Var. Hominis: The activity of SBT-12 against *Mycobacterium tuberculosis var. hominis* was investigated. Dilutions of SBT-12 ranging from 1:50 to 1:200 were made and 5 ml portions added into medication tubes. The inoculum consisted of that amount of pellicle, of a one month old culture of *Mycobacterium tuberculosis var. hominis,* which would just fit inside a four mm platinum loop.

After inoculation, the tubes were carefully swirled to fragmentize and facilitate contact between the diluted "SBT-12" and the inoculum. All tubes were then held in a constant temperature water bath (20°C) until used.

Transfers of a portion of a pellicle were then made at intervals of five, 10 and 15 minutes into 10 ml of Proskauer-Beck broth by means of a four mm loop.

These transfer tubes were

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Table II.
Antibacterial Activity of Hospital Linens Treated with SBT-12

Dosage of SBT-12 in Final Rinse Water	Zones of Inhibition* in Agar Seeded with Staphylococci					
	Kent	Giorgio	Cinc.	Wolbeck	80/81	209
8 oz./100 lbs. laundry	24 mm	24 mm	24 mm	25 mm	24 mm	24 mm
6 oz./100 lbs. laundry	23 mm	23 mm	24 mm	24 mm	24 mm	23 mm
5 oz./100 lbs. laundry	22 mm	22 mm	23 mm	23 mm	23 mm	22 mm
4 oz./100 lbs. laundry	21 mm	21 mm	21 mm	22 mm	21 mm	21 mm

*Zone readings include swatch diameter of 20 mm.

Chelating Agents in Detergents

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FOR the past thirteen years, the word "chelating agent" has been associated primarily with the organic amino acid chelating agents such as ethylenediaminetetraacetic acid, hydroxyethylethylenediaminetriacetic acid, diethanolglycine and other similar compounds. In a discussion of chelating agents as a class of compounds, the entire family of inorganic polymerized phosphates must be included, since these compounds form with metal ions the ring structures which are characteristic of chelating agents.

Too many times in the past when the different classes of chelating agents have been compared, emphasis has been placed not on their similarity, but rather on their differences. Some of this emphasis is justifiable. However, in many cases, by emphasizing the differences, one can easily overlook the many characteristics which both types of compounds possess in common.

Important Differences

The important differences between the organic amino acid type chelating agents and the inorganic polyphosphates include:

First: The amino acid chelating agents, generally speaking, can combine with a wider range of different metal ions than do the polyphosphates.

The prime prerequisite for strong chelation by EDTA, for example, is a polyvalent condition of the metal ion. Polyphosphates chelate calcium, magnesium, copper, zinc, and a few other common ions, but do not cover as wide a range as do the organic amino acid compounds.

Second: A tendency to revert to the simple $PO_4^{\equiv}$ radical is generally exhibited by polyphosphates in solution. This reversion is accelerated by excessively acid or alkaline conditions or by elevated temperatures.

In some instances this tendency of polyphosphates is sufficient reason to preclude their use. In many applications, however, reversion is of no consequence. Normally, detergent solution incorporating these polymerized phosphates are not kept long enough for reversion to matter. A different situation prevails, where a concentrated liquid detergent solution is to be stored and perhaps sold as an aqueous solution. One may elect not to use polyphosphates in such products.

Third: Polymerized phosphates exhibit the so-called "threshold effect," a characteristic not present in amino acid compounds.

It is very difficult to find an exact definition of the term "threshold effect" in the literature. The term is most commonly interpreted as the ability of traces of the polyphosphates to keep in solution much larger molar quantities of chemical compounds which would otherwise have a tendency to precipitate. In other words, a few parts per million of a polyphosphate can often temporarily disguise the physical effect of a chemical reaction which has taken place between a metal ion and a precipitating agent. The extent of the total effect is determined in large part by concentration, temperature, pH, and a number of other factors which are extremely difficult to predict or control.

Fourth: Until recently, inorganic chelating agents have mostly been much less expensive per pound than amino acid compounds. As a result, the applications of amino acid sequestrants have been limited largely to products where chemical reversion or special requirements precluded or complicated the use of polyphosphates.

A short time ago, a detergent grade of nitrilotri-acetic acid sodium salt was introduced at about 30 cents a pound. The comparatively low price and high potency of this organic amino acid compound may bring about a change in liquid detergent formulation practices.

The differences we have discussed are important and determine the selection of specific chelating compounds for individual applications. Other dissimilarities may exist, but they are in degree rather than in kind.

Comparative Evaluation

"Standard" laboratory evaluation methods for organic chelating agents use as an end point indicator the formation of a precipitate or a change of indicator color. These methods are useful for control work and for comparison of similar chelating agents, provided that the stability values of the metal chelates formed by the compounds under comparison are close together. It must be appreciated that it is very possible for a chelating agent to have a stability constant value high enough to perform the task required, but not suf-

*Paper presented at 47th midyear meeting, Chemical Specialties Manufacturers Assn., Chicago, May 17, 1961.

ficient to "perform" according to the standard method of evaluation.

Generally speaking, organic and inorganic chelating agents can be compared only in test formulations and on a performance basis. The two groups require different methods of evaluation since neither responds accurately to the method applicable to the other. Final evaluation of any compound intended for use with other materials must be based on performance in a given formulation designed for a specific purpose.

Similarities

Inorganic polyphosphate chelating agents are used in formulated products not only for their water softening properties but also for their other valuable chemical and physical characteristics. In the past, these "other characteristics" were not looked for in amino acid chelating agents, although they are present in most members of this group. The emergence of nitrilotriacetic acid salt, as a comparatively low priced and efficient builder, particularly for liquid synthetic detergents, has changed this approach.

The first and, perhaps, best known characteristic shared by organic amino acid and polyphosphate sequestrants is the ability to prevent heavy metal soap precipitation in soap base formulations and the ability to dissolve such compounds. Actually, the first wide-spread application of amino acid chelating agents was based on this characteristic and they have practially displaced polyphosphates in this field. This trend is not due to inefficiency of inorganic polyphosphates in this application, but rather to their instability in aqueous alkaline solutions for long periods of time.

Boost Detergencies

Both types of chelating agents build or boost the cleaning power of detergent formulations. The term "building" is used here to mean enhancing the efficiency of the componenets in the formulation. It is perfectly possible to build an excellent detergent incorporating amino acid chelating agents to the total exclusion of polyphosphates. Conversely, it is possible—and largely current practice – to build detergents with polyphosphates to the total exclusion of amino acid sequestrants. Substitution is practical because both types of compounds possess the same basic characteristics required in an effective builder.

Both organic and inorganic chelating agents act as foam stabilizers and – in combination with some surface active agents—as foam boosters. Yet, neither class of compound forms lather or foam when used alone.

Amino acid and inorganic polyphosphate chelating agents aid the removal of proteinaceous soils. Generally speaking, polymerized phosphates disperse such soils, whereas amino acids attack them by a combination of dispersing and solubilizing action.

Trace metals present in detergents and soaps may catalyze changes in the perfume or formation of undesirable compounds. These reactions, in turn, will cause rancidity and deterioration of color and odor. By their metal chelating activities both amino acid derivatives and phosphates will inhibit these undesirable phenomena. In this particular field amino acid chelating agents actually perform more efficiently than the polyphosphates because they form more stable metal chelates.

Water Conditioning

Control of calcium and magnesium in process or formulation waters is a well known application of both types of chelating compounds. However, there is one phase of this field in which the organic chelating agents excel. Used over an extended period, many detergent formulations cause or permit an increase in the mineral ash content of fabric fibers. While unimportant in hard surface cleaners, this tendency toward build-up of ash content may be a very serious consideration in the building or formulation of laundry detergents. European formulators are currently demonstrating that the presence of very small amounts of an amino acid sequestrant in a laundry detergent minimizes and—in some formulations – actually lowers the ash content of fibers repeatedly washed in hard water.

Both polyphosphates and amino acid salts are used to stabilize peroxide bleach solutions. If peroxide is overstabilized, it does not bleach. If understabilized, peroxide decomposes before it bleaches the wash to maximum whiteness. However, if chelating agents, pH and the amount of peroxide are correctly balanced, the peroxide will be utilized completely by the end of the washing cycle, insuring maximum whiteness and minimum peroxide content in the bleach solution.

Free-rinsing and draining are important characteristics of many hard surface cleaners. Correctly formulated, both organic and inorganic chelating compounds tend to promote free rinsing and draining with subsequent spot free drying of the cleaned surface.

Both amino acid and polyphosphate chelating agents serve to overcome the detrimental effect upon detergency exerted by calcium and magnesium water hardness. Most of the surface active

Detergents built with combination of polyphosphates and amino acid chelating aqents are improved by complementary action of builders

agents on the market lose in detergency with increasing water hardness. The molar effectiveness of polyphosphates in this function is greater at lower water hardness than at higher hardness concentrations. Thus a hard water formulation built around a polyphosphate may foam excessively if used in soft water, because it must of necessity contain an amount of polyphosphate too great for soft water use. By contrast, organic amino acid compounds maintain the same molar effectiveness regardless of hardness concentration. Formulations incorporating blends of the two types of sequestrants minimize the difficulties encountered with polyphosphates alone and yield more versatile products.

Both types of chelating agents will "protect" and boost the germicidal activity of some quaternary and phenolic compounds. At least in part, this effect may be ascribed to inactivation of calcium and magnesium ions in water, to which many quaternaries are sensitive.

Scale Build-Up

Scale build-up is a serious problem in many types of industrial installations. It threatens mechanical efficiency, may cause breakdowns and excessive power consumption. Scale build-up in food processing and other "sanitary" equipment is particularly objectionable because it provides crevices in which microorganisms may escape cleaning procedures. Application of either type of sequestrant to control scale build-up is well established. In some methods of scale control the threshold effect of tripolyphosphate or—more particularly—of the glassy phosphates plays an important role. Only minute amounts of polyphosphates are required to control scale or to cause degradation and softening of deposits to the point where they will be dislodged by the slightest mechanical agitation.

Recently, combinations of amino acid chelating agents and polyphosphates have been applied extensively in the field for scale control. The concentrations used are low and better results have been obtained with the combination than with either compound used separately at comparable concentrations. Although the mechanism of this apparent synergism is not clear, it may be partially explained by a phenomenon demonstrable in the laboratory: If samples of barium sulfate are precipitated in the presence of small amounts of EDTA or tripolyphosphate in separate containers, the physical characteristics and appearance of the precipitates differ markedly.

Characteristically, barium sulfate when first precipitated is almost impossible to filter. On aging, the tiny crystals grow larger and become filterable. When barium sulfate is precipitated in the presence of an amino acid derivative, the precipitate forms immediately and settles slowly. The particle size is very small and the normal aging process is inhibited. Pigments, precipitated in this fashion usually exhibit smaller particle size than those precipitated in the absence of organic sequestrants.

Barium sulfate precipitated in the presence of tripolyphosphates forms crystals which grow but do not settle. "Protected" by the polyphosphate they tend to form a gel and stay suspended.

A combination of amino acid chelating agent and polyphosphate usually breaks the surface of ordinary scale and produces small particles. The mechanism of scale formation and growth is impaired and removal of scale facilitated.

Protection of Brighteners

Both amino acid and polyphosphate chelating agents "protect" many of the optical bleaches customarily added to laundry detergents. These optical brighteners actually absorb invisible ultraviolet light and reradiate the energy as blue light which can be seen. The surface on which the dye is adsorbed appears brighter because it is emitting or reflecting light to which the eye is normally not sensitive and which, being blue, masks yellow shades. These fluorescent dyestuffs or optical brighteners are usually sensitive to iron and, in many instances, to calcium, magnesium, and other minerals present in water. Chelating agents can render these optical bleaches more effective and more substantive to the fiber.

Compatibility

Organic and inorganic chelating agents are compatible in most formulations. Cases where reversion is a major problem may be exceptions to this rule. Very few products containing amino acid chelates or polyphosphates alone do not profit by use of a combination of the two different types of sequestrants. While both types share the characteristics listed above, they do so in varying degrees. A few parts per million of polyphosphate have a very pronounced effect on a detergent system, due to the threshold effect. A very small amount of an amino acid salt can give protection against formulating problems caused by heavy metal ions and the side reactions which they may induce. This will be accomplished without interference with the action of the polyphosphates.

Economics

Any comparison of organic and inorganic chelating agents must take cognizance of cost data to give meaning to the comparison of physical and chemical characteristics. Until recently, the least expensive commercially available amino acid chelating agent was EDTA salt. Price per pound must, of course, be correlated with efficiency per pound. But even in its most economical form, EDTA is separated from the most expensive inorganic phosphate by a wide cost gap.

A short time ago, a detergent grade of nitrilotri-acetic acid salt was introduced as an organic chelating agent. This material is

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"Cherry picker," used to reach inaccessible surfaces, is equipped with its own supply of pressurized cleaner and water for efficient soil removal. In background is giant C-133 cargo carrier of U. S. Air Force.

Aircraft cleaner is sprayed on underwing area and brushed to loosen soil. Brushing is immediately followed with water rinse to remove all cleaner and soil. Wings are cleaned from center out to wing tip to avoid streaking.

Photos courtesy Air Mod Division, Cook Electric Co., Dover Air Force Base

Cleaners in

NUMEROUS methods are available and in use for the cleaning of aircraft surfaces and parts. We shall consider the procedures which utilize chemical specialties for removal of soil from aircraft and space vehicles.

The cleaning of aircraft surfaces is essential not only for appearance, which is important to commercial airlines, but also air safety. Since aircraft surfaces are an integral source of basic strength, forming the airframe itself, the effects of corrosion on these surfaces must be kept to an absolute minimum.[1] This may best be done by maintaining clean surfaces.

Kimmel and co-workers[2] have found three types of soil commonly present on aviation surfaces. A dry, non-oily type of traffic film is always present. A heavy black oily-dirt deposit is usually found behind engine nacelles and landing gear wells. On the exhaust tracks, heavy carbonized deposits accumulate. Analysis of these latter exhaust tracks reveal mainly oil and silicaceous dirt with a small amount of water soluble salts.

Apart from aero-surfaces themselves, engines require periodic overhaul. Removal of oil, grease, carbon and metallic deposits is considered an important part of the general overhaul process. Engine mounts are always cleaned at this time in order to check for structural and any other defects.

Aircraft Surface Cleaners

The two most favored and effective types of aircraft surface

the Aero-Space Field

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cleaners are the alkaline water-base type and the solvent-emulsion type cleaners. The alkaline water-base cleaner has steadily been finding increasing favor because of lowered use costs, high efficiency, safety from fire hazards and freedom from disposal problems. In 1958, the Air Force superseded specification MIL-C-25179A, a solvent-emulsion type cleaner, with MIL-C-25769 alkaline water-based cleaner. The current specification for this type cleaner is MIL-C-25769B. Principal reason for the change was the disposal problem created by emulsion cleaners. Additional solids and rinsing requirements account for the advancement to the B specification.

The solvent-emulsion cleaners are commonly supplied as a concentrate and diluted with petroleum distillates for final use. Storage and handling of flammable solvents necessary for final use is undesirable about any aviation facility. Additionally, as mentioned previously, disposal of the high organic content waste has presented problems both to local communities and to military bases. Contamination of sewage effluents caused by solvents in the rinse waste may lower oxygen content of the water basin and cause great damage and destruction to aquatic and fish life.

The cleaning of aircraft surfaces, with alkaline water-base cleaners is an example of hard surface detergency. The mechanism of such detergency has been adequately covered in reviews by Schwartz and Perry[3], and by Price[4].

Aqueous Alkaline Cleaners

Alkaline water-based aircraft cleaners should have good detergency, hard water stability, strong emulsification characteristics and stability in storage. They must not discolor or soften aviation paints, be corrosive to aluminum or craze acrylic parts.

A typical formulation for this type cleaner would be that specified as a comparison formula in MIL-C-25769B. (Table I.)

Table I. Alkaline Water-Base Aircraft Cleaner Comparison Formula MIL-C-25769B(USAF)

	% by wt.
Trisodium phosphate (dodecahydrate)	10.0
Nonionic surface active agent (Triton X-100)	2.0
Ethyl Cellosolve	6.0
Water	82.0
	100.0

This formulation does not meet all the requirements of the specification, but can be modified to do so. In use this product is diluted with water, using one part cleaner to as little as three parts water up to eight parts water, depending on the amount of soil which must be removed from the aircraft surface. For very heavy deposits, the cleaner is to be used without dilution. In extreme cases, such as very heavy grease accumulations, mineral spirits may be mixed with the alkaline cleaner to form a highly effective emulsion which removes grease and oil more easily.

Another type alkaline water-based cleaner incorporates solvents to facilitate the cleaning of heavily oiled surfaces. The use of this type of cleaner is growing and is represented by specification MIL-C-22543 (WEP). A comparsion formula developed by the Bureau of Weapons laboratories is given in Table II.

Table II.
Water-Emulsion Aircraft Cleaner Comparison Formula MIL-C-22543 (WEP)

	% by wt.
Water	20.2
Sodium xylene sulfonate	1.8
Triton X-100	4.3
Triethanolamine	4.0
Butyl Cellosolve	9.2
Solvesso 150	36.7
Oleic Acid	12.8
Pine Oil	1.0
Hexylene glycol	10.0
	100.0

For use, this product is diluted with four parts of water. Stronger solutions may, of course, be used where indicated for heavier

A C-123 cargo plane after cleaning and brightening operation. Aluminum brighteners remove corrosion and renew dull oxidized aircraft surfaces. Adjustable scaffolding is set up for easy access to engines and wing surfaces.

Photo courtesy Air Mod Division, Cook Electric Co., Dover Air Force Base

* Paper presented at 47th midyear meeting, Chemical Specialties Manufacturers Assn., Chicago, May 16, 1961.

deposits. Petroleum solvent may be used instead of water to increase grease solvency. One unique requirement of this specification is that any salt deposits (such as may accumulate on sea duty) should not cause formation of an insoluble film if the cleaner is permitted to dry out on the surface to be cleaned.

Steam Cleaners find considerable use in both commercial and military aviation for cleaning aircraft surfaces. Chemicals for use in such steam cleaners are usually supplied as granular or powdered solids, and are dissolved in water to make a liquid concentrate. This solution is then applied to the aircraft surface by the high pressure steam unit. The cleaner compounds for this type service are composed of sodium silicates, phosphates, carbonates and wetting agents. Undissolved powder particles have caused frequent trouble by clogging steam lines and orifices. The Bureau of Weapons has recently issued a new specification, MIL-C-22542, for a liquid steam cleaning compound which should overcome such problems.

Alkaline water based cleaners offer many advantages, but their use is not entirely free from drawbacks. If left to dry on the aircraft's surface, these products may cause serious streaking which must be removed by abrasive polishing. It is, therefore, imperative that these cleaners are immediately and thoroughly rinsed off before any surface drying occurs. Their use must be limited to areas which can be rinsed before drying and caution exercized to prevent over-spray or rundown on adjacent surfaces.

Solvent-Emulsion Cleaners

Unlike water based alkaline cleaners, solvent-emulsion cleansers for aircraft surfaces incorporate solvents in their formulations. Solvents such as "Varsol" (Esso, Stoddard solvent) or high flash dry cleaning naphtha serve as use diluents, rather than water. In addition to formulated solvents, these products incorporate soaps, synthetic detergents, and coupling agents.

Common use dilution of this type of cleaner is about one part of product in 10 parts of solvent. These proportions may be varied for optimum efficiency in removing certain soils. The solution is applied to the surface by spraying, allowed to act on the soil, and rinsed off with high pressure water streams.

Solvent-emulsion cleaners remove soil by dissolving the oil and grease binders. The cleaner-soil mixture is emulsified and flushed from the surface by the water rinse. Generally speaking, the better the emulsification properties of the cleaner solution, the better will be the cleaning performance. Primary advantages of the solvent type cleaner is more efficient removal of grease and oil deposits and absence of streaking on aviation surfaces. Disadvantages are: Problems of waste disposal (with subsequent contamination of water sources), possible effects on painted surfaces and rubber parts and occasional staining of aluminum surfaces. Storage and handling of flammable solvents incident to use of these cleaners is also undesirable.

Staining of aluminum surfaces does not normally occur, but only where some moisture is entrapped in the solvent emulsion cleaner film deposited on the metal surface. This may happen when the diluted cleaner has been applied to the aluminum and then permitted to stay over an extended period. The film may be left on the aircraft either to obtain better détergency or for reasons of convenience (for instance, the cleaner may be left overnight and rinsed in the morning when the crews return to work).

Dew condensation, light rain, or condensed moisture from other sources may partially emulsify the cleaner, freeing soap from the solvent solution thus starting a reaction with the aluminum which results in staining. Basically, poor soap formulation is at fault where such staining occurs and correct compounding will eliminate the problem. Once the stains have formed, they can be removed only by abrasive polishing.

Specifications MIL-C-7122

Aluminum brightener, having been applied to skin of aircraft, is allowed to act on aluminum surface for a few minutes, then is thoroughly rinsed with stream of water as shown.

Photo courtesy Air Mod Division, Cook Electric Co., Dover Air Force Base

(AER) and MIL-C-25179A (USAF) cover the solvent-emulsion type aviation cleaners.

Other cleaning compounds of interest to chemical specialty manufacturers, but used in much lesser quantities, include: Polishes, rubbing compounds, aluminum brighteners and soaps.

Aluminum polishes are usually emulsions containing finely divided abrasives and suspending agents. MIL-P-6888 is a specification covering such an aluminum polish.

Aluminum brighteners are based on phosphoric and citric or hydrofluoric acids. They clean, brighten, and remove corrosive matter from aluminum surfaces. Since they also remove some of the aluminum metal surface, general practice is to restrict use of the brighteners to a few times a year.

Water rinsable paint strippers are sometimes used to remove heavy carbon deposits from exhaust tracks and serve the purpose of a cleaner in this fashion.

In addition to effective chemical cleaners, correct equipment is needed for efficient aircraft cleaning is to be accomplished. A moment's reflection will show the problem involved in reaching over or around an aircraft, several stories high. In addition to complex scaffolding, pressure tanks, mixing tanks, spray equipment, washing machines and brushes are needed. Most of such equipment is highly specialized for the aviation industry. An excellent outline of equipment and materials for aviation cleaning has been published by the Bureau of Aeronautics.[5] Accompanying illustrations show some of the setups and equipment used for military aircraft.

Engine Cleaners

Reciprocating engines must be torn down, cleaned, inspected and rebuilt after 100 hours of operation. For jet engines the overhaul period may vary from 1600 to 3000 hours. For these processes, the chemical specialty industry supplies the bulk of the cleaners.

Emulsion cleaners, steam cleaners, vapor degreasers and hot and cold carbon removers are used to clean engine blocks and parts, carburetors, etc. Emulsion and steam cleaners are the same types as those used for cleaning aircraft surfaces and were discussed in those sections.

Vapor Degreasers: Used in machines specially designed for such highly volatile solvents, vapor degreasers are specially stabilized or inhibited chlorinated solvents such as perchlorethylene or trichlorethylene. These products are described in specifications O-P-191 and MIL-T-7003, respectively.

Parts to be cleaned are hung in the machines and contacted by the vaporized solvent. By a reflux effect, oil and grease are softened and washed away from the parts along with carbon and other soils bound by such deposits. Due to the refluxing action, clean solvent only contacts the metal. Accumulated sludge is removed periodically and make-up degreaser solvent added when needed. Machines used must be relatively vapor-tight. They contain heating elements to vaporize the solvents, and usually some sort of recovery system to prevent loss of any expensive solvent. They may be complex and contain more than one cleaning stage.

Stabilization of vapor degreasers is extremely critical since degradation products are acidic in nature and corrosive to all engine and other metal parts. Amines are frequently used, both as stabilizers and as corrosion inhibitors to insure protection for the parts at all stages.

Carbon Removers

Carbon removers are used for removal of heavy, baked-on deposits from pistons and valves or other parts, and of bad gum deposits from carburetors. These cleaners are usually classified as cold-tank or hot-tank types.

Cold-Tank Carbon Removers: These products incorporating chlorinated solvents, cresols, soap or similar emulsifiers, corrosion inhibitors and water, form two-phase systems, with the basic cleaning solvents in the lower layer. The water separates quickly on standing and forms a seal to prevent loss of the solvent due to evaporation. The water layer must be inhibited to prevent corrosion of parts. Sodium chromate is a common inhibitor for this purpose. Other inhibitors must be chosen with care, since the combination of water and chlorinated solvents in steel tanks creates a potential danger of solvent degradation and consequent serious corrosion.

Here, again, a "cherry picker, is used in applying cleaners or aluminum brighteners to upper wing surface. Workers wear protective clothing.
Photo courtesy Air Mod Division, Cook Electric Co., Dover Air Force Base

In the cleaning operation with cold-tank carbon removers, the parts are suspended in the tank, usually in a wire mesh basket. Parts should be completely covered by the solvent phase of the cleaner, to facilitate cleaning and to minimize the risk of corrosive effects especially at the solvent-water interface. After carbon and other soil is loosened and drops away from the parts, they are removed and flushed with a high pressure water spray. To prevent rusting, parts are then sprayed down with mineral spirits, and dried.

The level in carbon remover tanks is maintained by the addition of water for a continuously effective evaporation barrier, and by

(*Turn to Page* 126)

Hundreds of new perfume materials are incorporated in laboratory soap samples and carefully evaluated for odor quality. **Above photo was taken in laboratory of International Flavors & Fragrances, Inc., New York.**

Changing Fashions in SOAP PERFUMES

By F. V. Wells*†

AS a preliminary to compiling this brief account of modern soap perfumes, I wrote to several of the leading European soapmakers in order to obtain samples of their most recently introduced soaps. In this way I was able to study at first hand some excellent perfumed soaps of Danish, Dutch, Swiss, Spanish, Swedish, French and German origin; and there is no doubt that this selection may be regarded as typical. In general the toilet soaps examined may be divided into the following main groups, according to perfume type:

1. Citrus-Herbaceous, including lavender bouquet, fougere, Cologne and verbena.
2. Floral, with lily-of-the-valley, jasmin and rose notes predominant; also hyacinth and lilac. Some of the newer floral bouquets incorporate one or more of the various synthetic odorants that I have listed elsewhere.
3. Fantasy types; with some resembling a well-known American toilet soap, based partly on aldehydes and the newer synthetics.
4. Spicy/Balsamic types. This includes the still popular Brown Windsor *accord;* incense, amber, tabac, leather and heavy oriental blends. In a separate sub-group come the pine odors.

Part II

Group No. 1 is still extremely popular and would seem to owe little at present to the newer synthetics. Some of the latter are nevertheless well adapted for use in this group.

Group No. 2 seems to have a

* Paper read as "Les Parfums modernes pour savons suivant la mode," at the Journee Technique du Parfumage du Savon, organised by La Societe Technique des Parfumeurs de France; Paris, May 27, 1961.

† Consulting Perfumer; Editor of *Soap, Perfumery & Cosmetics*, London.

tendency to become only vaguely floral or even floral/fruity in character.

Group No. 3 contains some of the more pungent, violent odors, the emergent force of which seems often in inverse ratio to their artistry. Some of the examples in this group are frankly vulgar, even though they may be designed to resemble fine perfumes. It is in this group, however, that the greatest scope for innovation is to be found. I have referred elsewhere to the aldehydic shading and fruity floral ester notes etc. that contribute to the undoubted popularity of this third group.

Group No. 4, the least "progressive" of all the groups, is still greatly in demand. From Spain to China and from Sweden to India and Australia, soaps in this category continue to find eager purchasers. Many soaps for masculine use come either into this category or overlap into Group 1.

I have made no special study of taste in the United States, but my informants there have sent me the latest popularity ratings, which would seem to indicate that toilet soaps with mild floral and spicy bouquets are still, though relatively old-fashioned, more popular than the heavily over-perfumed soaps. This is not entirely the picture painted by Stoller, although the soaps that he considers the most up-to-date of their kind (i.e. those in group 3) are also, of course, widely popular.

The most recently introduced toilet soap in the U. K., a nationally advertised line, has a perfume that, in the words of the makers, "retains its qualities throughout the life of the tablet and emphasises mildness and gentleness." The perfume seems, in fact, to be of a conventional muguet/rose type.

What conclusions can be drawn from these various fashions? Firstly, I think, that it is unwise to copy a soap perfume simply because the soap in which it is used is being heavily advertised. Secondly, that all tendencies should be carefully considered — from the vulgar excesses committed in the name of novelty to the nondescript bouquets evolved by the timid and inexperienced. Thirdly, the enterprising soap perfumer should become as familiar with the newer materials at his disposal as he is with the old. After that, it is purely a mattter of artistry, effort and luck, whether he produces an outstandingly good soap perfume or not.

An example of recently introduced European toilet soaps is this package of "Maya la douche," "Hostess" and "Maya Pink," products of Friedrich Steinfels, Zurich, Switzerland. Great attention is given to perfuming of these soaps.

Detergent Perfuming

The technical problems associated with the perfuming of blended synthetic detergents — chemical incompatibility, physical chemical behavior, strength of odor, stability, solubility, etc. — have been effectively discussed elsewhere. The most important single fact, however, in the choice or elaboration of such perfumes is their suitability from the aesthetic point of view. One still finds dishwashing detergents that are too heavily perfumed. Here, surely, the perfume used should be light, fresh and definitely non-persistent. On the other hand a more sophisticated perfume, leaving behind a pleasant residual odor, may prove desirable in a light-duty detergent intended for washing delicate fabrics or feminine garments. A popular American detergent tablet for personal use is effectively perfumed with a sweet floral/fruity bouquet, consisting mainly of jasmin, lily and aldehyde notes and terpene esters. This would not be a suitable perfume, of couse, for a heavy-duty detergent intended for the washing of badly soiled clothing.

My own view is that, when in doubt, manufacturers of blended synthetic detergents should rely more upon the refreshing, transient types of composition (lavender, citrus, pine, light fougere, and simple floral bouquets) than upon heavier, more exotic, more sophisticated blends. This brings me, however, to the last point that I wish to make in the present discussion, namely the tendency to develop perfumes that will persist on fabrics after they have been washed.

Perfumes for Fabrics

In July 1959 a Shanghai correspondent sent me a clipping from the *Hong Kong Press*, in which attention was drawn to the

(Turn to Page 122)

Philadelphia Quartz—130 Years Old

A "business within a business" grew out of early experiments with sodium silicate by this one-time producer of soaps and candles.

JUST a few years before the start of the Civil War, the Philadelphia firm of Joseph Elkinton & Son, later to be known as the Philadelphia Quartz Company, began experimenting with sodium silicate. Since the founding of the firm in July, 1831, soap and candles had been its only products, but news from abroad that sodium silicate had value as a detergent builder for soap was intriguing. Experimental work proved that it was very beneficial to the qualities of Elkinton's soap products and before long other soap makers wanted to buy silicate.

A business within a business was developing and the company made its first recorded sale of sodium silicate 100 years ago on January 21, 1861. The Civil War, which broke out three months later, resulted in embargoes preventing northern soap producers from procuring southern rosin, an important ingredient in kitchen and laundry soaps. Silicate, as a soap builder, consequently came into greater demand and was recognized as an improvement over rosin. Although soap making continued at the original Elkinton plant on South Second Street, Philadelphia, it became necessary to expand production for the manufacture of silicate. In 1864, a larger factory was built at Ninth and Mifflin Streets, and it was then that the name of *Philadelphia Quartz Company* first appeared.

By the time the nation celebrated its centennial, the company had added a tecnnical representative who could demonstrate how silicate was used in soap. Calling upon a manufacturer, he produced from his satchel, miniature soap making equipment and proceeded to make a small batch of soap in the buyer's presence. Thus, the method to establish proof of the value of silicates, not only in washing, but in other industrial processes, was instituted.

An array of silicate products was now offered, indicating new uses for what was becoming recognized as a versatile chemical. In 1889, growing business in the midwest justified the opening of a silicate factory at Anderson, Indiana. In 1905 the outdated Philadelphia plant was replaced by a new factory at Chester, Pa., to meet increasing sales demands. It was then decided to concentrate the entire energies of the company on the manufacture and development of silicates.

Today, soluble silicates are used in a wide variety of industries; i.e., soap, detergent, paper, paperboard, textile, refractory cement, oil, rubber, laundry, mining and foundry. They are used for the prevention of corrosion in water lines, for concrete hardening, in metal cleaning, in coagulation of raw and waste waters, in the solidification of foundation soil and catalytic gel manufacture.

Currently, the company's literature on soluble silicates covers over 100 different subjects. *Silicate P's and Q's*, the monthly house organ, is dedicated to disseminating information on silicates. It has been published continuously for over 40 years.

The nine Philadelphia Quartz Company plants are located at Anderson, Ind.; Baltimore, Md.; Buffalo, N. Y.; Chester, Pa.; Jeffersonville, Ind.; Kansas City, Kans.; Rahway, N. J.; St. Louis, Mo.; Utica, Ill. An associated company, Philadelphia Quartz Company of California, operates plants at Berkeley and Los Angeles, California and at Tacoma, Wash. Another associate is National Silicates Ltd. with producing units at Toronto, Ontario and Valleyfield, Quebec.

Thomas W. Elkinton, chairman, is a great-grandson of the founder; his son, Thomas, is president of the firm. Other directors of the company are: William Martin, James A. Norton, Chester L. Baker, John C. Russell, Charles E. Ramsey, J. Morris Evans, Monroe J. Blanchard. General offices are located in the Public Ledger Building, Philadelphia 6, Pa.■

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What's ahead for glycerine? A round-up of the world situation on this important by-product of the soap industry will be presented in a future issue by a world authority.

The future marketing of soaps and detergents in tomorrow's supermarket will be discussed in a coming issue by the executive vice-president of one of the leading U. S. soap and detergent marketers.

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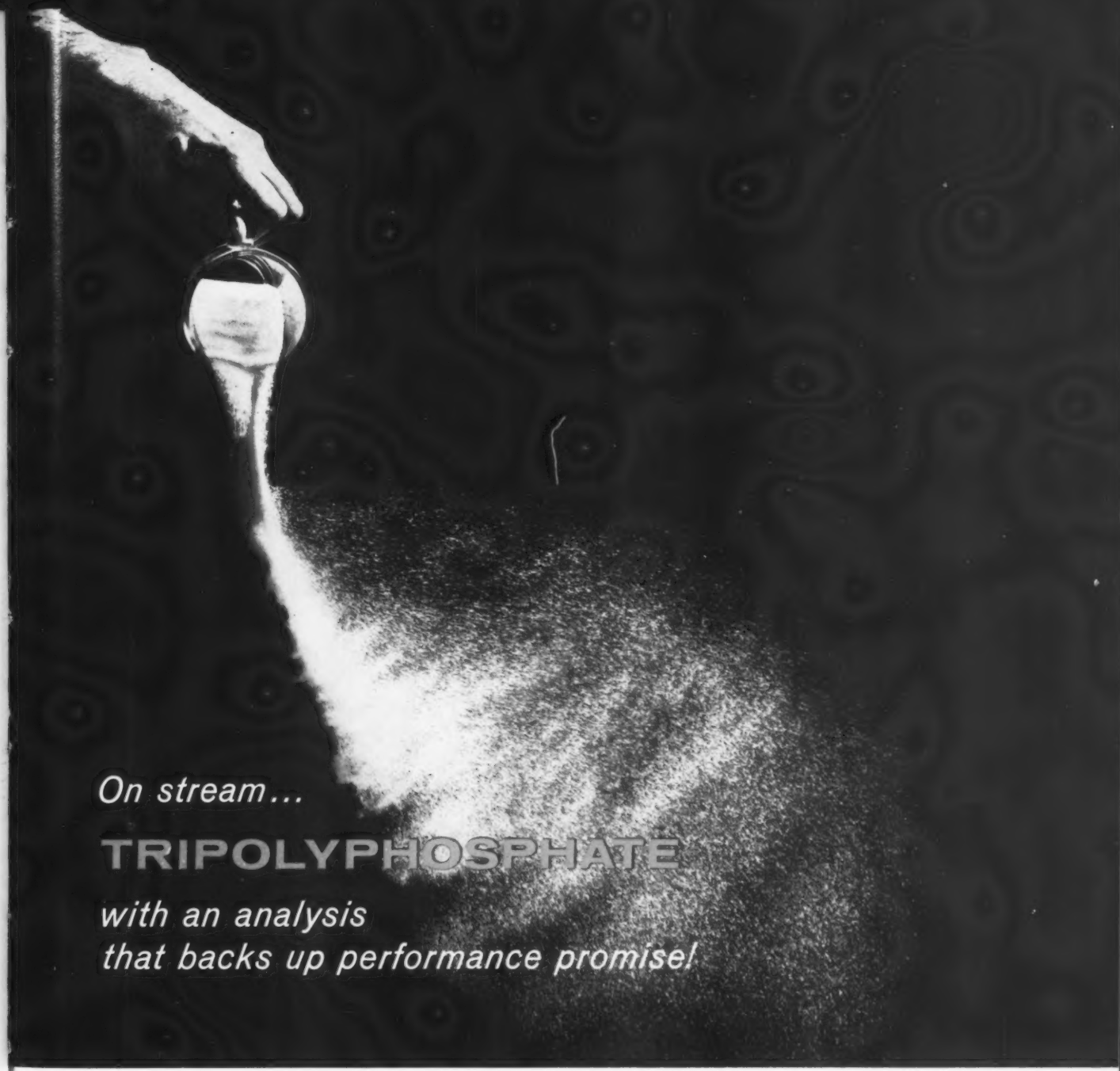

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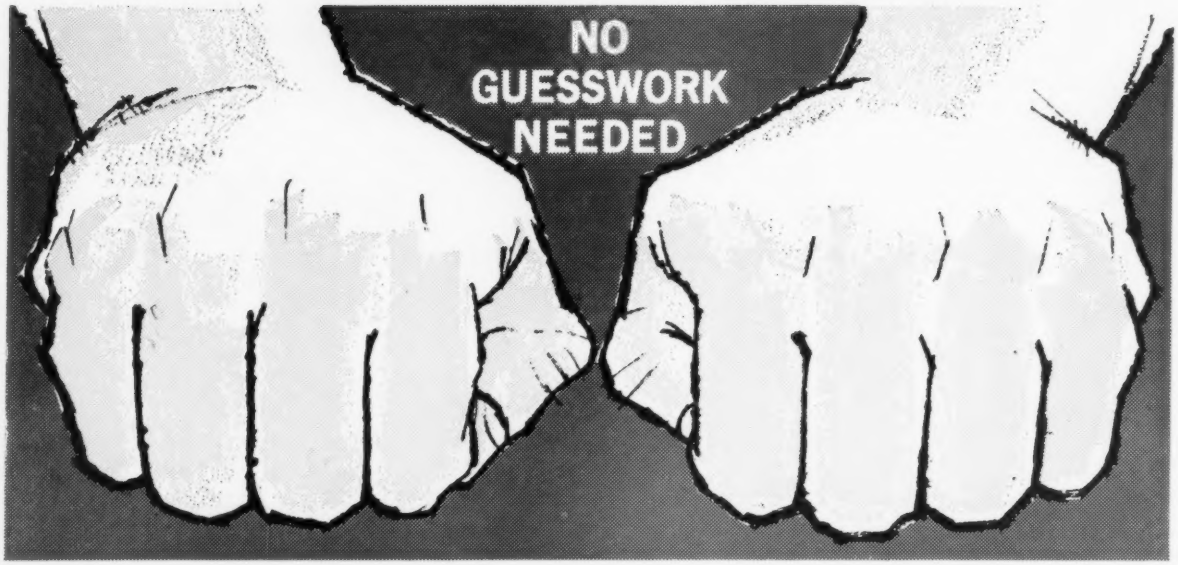

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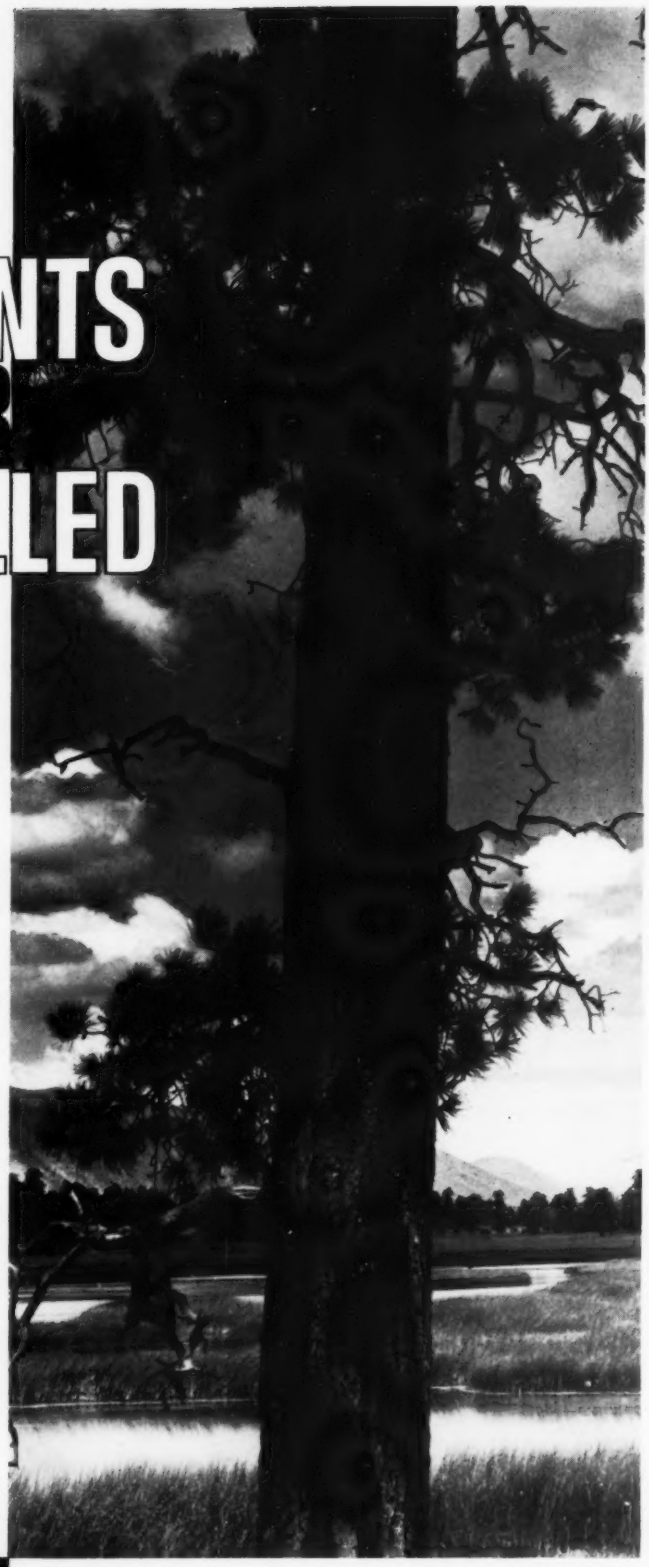

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Reginald L. Jones of Colgate-Palmolive, Ltd., Toronto, president of the Canadian Manufacturers of Chemical Specialties Association, will preside during fourth annual CMCS meeting, which is being held in Toronto, Oct. 29 through Nov. 1. Story on meeting and program begins on page 79.

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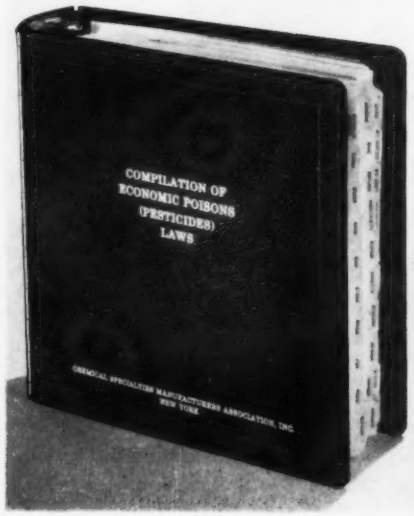

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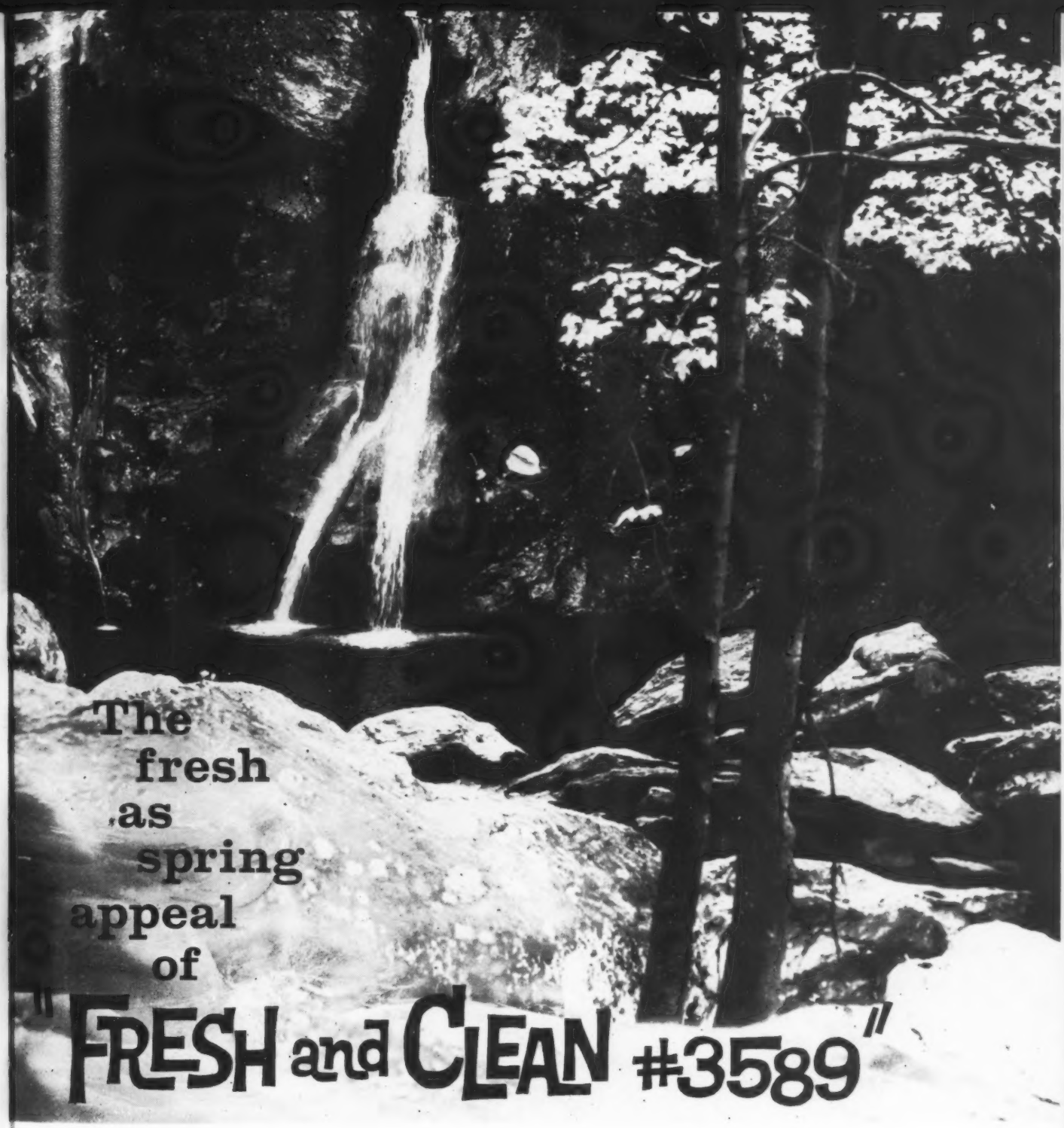

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Epolene E	2500	1500	0.938	2
Epolene HDE	1500	455	0.956	1
Epolene LVE	1500	400	0.939	5
Epolene N	2500	2500	0.928	1
Epolene HD	1500	340	0.938	0.5
Epolene LV	1500	360	0.925	3
Epolene C	7000	16,000	0.907	7

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Canadian Specialties Makers to Meet

Fourth annual meeting of Canadian Manufacturers of Chemical Specialties Association being held Oct. 29 - Nov. 1, at Royal York Hotel, Toronto

A DIVERSIFIED program of individual papers and forums has been arranged for the fourth annual meeting and conference of the Canadian Manufacturers of Chemical Specialties Assn. The meeting will be held Oct. 29-Nov. 1, at the Royal York Hotel, Toronto.

The three-day meeting is preceded by a meeting of the board of directors of the association on Sunday, Oct. 29th, from 2:00 p.m. to 5:00 p.m. The following day the C.M.C.S. board resumes its meeting at a morning session, after which all divisions meet in separate sessions to discuss future programs and plans. Two of these divisional meetings will be joint sessions. Combining their discussions, which begin at 2:30 p.m., Oct. 30, will be the Aerosol and Insecticide and Pesticides Divisions in the Saskatchewan Room. Also meeting jointly will be the Disinfectants and Sanitizers and the Soaps, Detergents and Sanitary Chemicals Divisions. These latter two divisions will meet in the New Brunswick Room. Meanwhile, the Waxes and Floor Finishes Division will gather in the Nova Scotia Room, while the Automotive, Marine and Transportation Chemicals Division convenes in the Prince Edward Island Room.

The first day's activities will be concluded with a social event, the Supplier's Open House Party in the Territories Room, from 6:00 to 8:00 p.m.

An innovation at this year's convention will be "wide interest" sessions that should attract the interest of all divisions. The first of these sessions gets under way on Tuesday morning, Oct. 31, beginning at 9:00 a.m. The subject of the session, "Industrial Packaging Design", will be discussed by Alan Jarvis, Alan Jarvis Associates, Toronto industrial design firm. This session, in the Territories Room concludes at 10:45 a.m. It will be followed by a forum of the Aerosol Division in the same room. Slated to speak at this session are Seth Schneible of Crown Cork & Seal Co., Philadelphia, and J. J. Gregory, Newman-Green, Inc., Addison, Ill. Mr. Schneible will speak on "Aerosols in the Future", and Mr. Gregory will discuss "Aerosol Valves, Past, Present and Future".

During the luncheon in the Ontario Room winning packages in the aerosol package competition will be announced and awards presented to firms whose products were selected as winners. A speaker from the National Productivity Council will speak at this luncheon.

Concurrent sessions of the Pesticides and Waxes and Floor Finishes Divisions get under way at 2:15 p.m. on Oct. 31. The Pesticides Division meeting in the Territories Room will first hear a report on "Butonate — A New Insecticide", by George J. Hartz of Prentiss Drug & Chemical Co., New York. This will be followed by a panel discussion of the "History, Biology and Control of the 'Cattle Face Fly' ". Moderator for the panel will be W. P. Watson,

Reginald L. Jones
CMCS president

A. Robins
CMCS vice-president

G. H. Wood
CMCS director

George V. Jensen
CMCS director

Seth Schneible
"Aerosols in the Future"

Lloyd H. Perry
Wax forum speaker

Livestock Commissioner, Province of Ontario. The panel will be composed of Dr. W. E. Heming and Dr. J. K. McGregor of Ontario Veterinary College; H. J. Teskey, Livestock Insect Laboratory, Canadian Department of Agriculture, and J. M. Dalrymple, Kemptville Agricultural School, Kemptville, Ont.

A forum on waxes and floor finishes, also scheduled for 2:15 p.m., will be held in the Manitoba Room. Speakers include: Dr. Robert Turner, research supervisor in polymers, Morton Chemical Co., Woodstock, Ill.; Maurycy Bloch, Warwick Wax Division, Western Petrochemical Corp., Kansas City, Mo., and Dr. Lloyd Perry, UBS Chemical Co., Division of A. E. Staley Manufacturing Co.

The concluding session of the day will be a "wide interest" discussion in the Territories Room of "The Application of Chemical Specialties to the Booming Pleasure Boat Industry". Speaker will be Robert W. Kelly, manager, Allied Boating Association of Canada.

The cocktail party and banquet will be held Tuesday evening, Oct. 31 at the Sheraton King Edward Hotel, beginning at 6:00 p.m. Because of a strike at the Royal York, the banquet is being held at a different hotel and has been moved up one day. There will be a floor show and dancing following the banquet.

The annual meeting of the Canadian Chemical Specialties Manufacturers Assn. will take place at 9:30 a.m. in the Territories Room of the Royal York on Nov. 1. During this meeting officers and directors for the coming year will be nominated and elected. Following the elections the new C.M.C.S. president will outline the association's plans and program for 1962.

The third "wide interest" session of the meeting will be held in the same room beginning at 10:30 a.m. The subject of this session will be "Federal and Provincial Taxation". Speakers will include a representative of the Department of National Revenue; Phillip Clark, Comptroller, Ontario Treasury Department, and E. O. M. Hahner, Corporation House, Ottawa.

J. S. Proctor, executive vice-president, Canadian Imperial Bank of Commerce, Toronto, will address the luncheon meeting at 12:30 in the Ontario Room. Mr. Proctor will speak on "Banking and Industry."

George J. Hartz
"Butonate—New Insecticide"

Joseph J. Gregory
"Aerosol Valves . . . "

Maurycy Bloch
Wax forum speaker

Daniel C. Geary,
"Powder Aerosols"

Two divisional meetings, the afternoon of Nov. 1, will conclude the formal program activities. A forum on aerosols beginning at 2:15 p.m., in the Quebec Room, will feature two presentations. Daniel C. Geary of Union Carbide Chemicals Co., Tarrytown, N. Y., will speak on "Aerosol Powders", and John Hinn of Air Reduction Co., Madison, Wis., will discuss "Propellants in Aerosols".

A panel discussion of "Supplying and Hospitals" will feature the joint session of the Soaps and Detergents, Disinfectants and Sanitizers and Waxes and Floor Finishes Divisions. Slated to participate in this symposium will be Dr. Harold G. Lederer of R. M. Hollingshead Corp., Camden, N. J.; Miss Ellen Cowan, executive housekeeper, Toronto Western Hospital, and Dr. E. G. D. Murray, director, medical research, University of Western Ontario. This session will begin at 3:45 p.m. in the Manitoba Room.

Harold G. Lederer,
Panel Moderator

The fourth annual meeting and conference of C.M.C.S. is scheduled to adjourn at 5:00 p.m.

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NSSA Schedules Meetings

The National Sanitary Supply Association, Chicago, at its first regular 1961-1962 board of directors meeting, held June 22-23 in Chicago, approved four district meetings. The first meeting was held Sept. 28-29, at the Jack Tarr Hotel, Galveston, Tex., chairmanned by A. J. Cuchia, Hygeia Chemical Co., Galveston, district five director. West Coast meetings were scheduled for October 15-16, in Seattle, Wash., Oct. 18, San Francisco, and Oct. 20, Los Angeles. Chairmen are Robert L. Friedenthal, Easterday Supply Co., San Francisco, district eight director, and H. J. L. Baum, Mipro Metal Products Co., South San Francisco, immediate past president.

Among the programs reviewed by the board was the new "Modern Selling Methods" training program for salesmen. "How to Achieve Greater Cleanliness at Lower Costs," a new industry promotion film, is now available to Association members. The meeting was presided over by Samuel Newman, Creco Co., Long Island City, N. Y., president of N.S.S.A.

★

Jergens Stock Offering

Andrew Jergens Co., Cincinnati, recently filed a registration statement with the Securities and Exchange Commission covering a proposed second offering of 250,002 shares of common stock. The offering is the first public sale of company shares.

Contributors to C.M.C.S. Suppliers Open House Party

Aerocide Dispensers Limited, Rexdale, Ontario.
The Aluminum Co. of Canada Ltd., Montreal, Quebec.
M. Argueso & Company Inc., Mamaroneck, N. Y.
Atlas Powder Company Canada Limited, Brantford, Ontario.
Bareco Wax Company, Div. of Petrolite Corp., Tulsa, Oklahoma.
BASF Canada Ltd., Montreal, Quebec.
Bate Chemical Corporation Ltd., Toronto, Ontario.
Canada Colors & Chemicals Ltd., Toronto, Ontario.
Canadian Hoechst Limited, Montreal, Quebec.
Chemical Developments of Canada Ltd., Montreal, Quebec.
Compagnie Parento Limited, Toronto, Ontario.
Connecticut Chemicals (Canada) Ltd., Toronto, Ontario.
Consolidated Bottle Co. Limited, Toronto, Ontario.
Continental Can Company of Canada Ltd., Toronto, Ontario.
Crown Cork & Seal Company Ltd., Toronto, Ontario.
Diversey Corporation (Canada) Ltd., Clarkson, Ontario.
Dow Chemical of Canada Ltd., Sarnia, Ontario.
Dow Corning Silicones Limited, Downsview, Ontario.
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Givaudan-Canada Limited, Toronto, Ontario.
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U.B.S. Chemical Company, Div. of A. E. Staley Mfg. Co., Cambridge, Mass.
Union Carbide Canada Ltd., Toronto, Ontario.
G. H. Wood & Co. Ltd., Toronto, Ontario.

Figure 2. Adult face flies, "M. autumnalis," on the face of a dairy cow.

Face Fly--Problems

By George C. Decker*,
Illinois Natural History Survey, and
Illinois Agricultural Experiment Station

IN the short span of two or three years, the face fly, *Musca autumnalis* DeGeer, has risen from obscurity to the status of a much dreaded pest of livestock, particularly cattle, and a first class household pest as well. It closely resembles its near relative, the common house fly, *Musca domestica*, L. Both are emigrants from Europe, but the later may claim "Mayflower vintage" seniority and prestige. Just when the face fly made its appearance on the North American continent may be debatable. Until Vockeroth (1953) identified as *M. autumnalis* specimens collected in a church at Middleton, Nova Scotia, September 9, 1952, *M. domestica* was presumed to be the only member of this large Old World genus to have reached America. Walker, a British entomologist, in 1849 and again in 1871 listed *M. autumnalis* (*M. corvina*, Fabr.) as present in Nova Scotia, but these records are generally presumed to represent misidentification or perhaps mislabeling of specimens.

Were it not for the fact the 1952 collections came from the same general area it is doubtful if anyone would challenge this assumption. Even so, in the light of the economic significance now attached to this species, it is hard to believe that its presence in the Maritime Provinces of Canada could have gone practically unnoticed for over 100 years. The conspicuous nature of several characteristics which readily reveal its presence suggest its recent arrival in the Western Hemisphere. Be that as it may, the identity of the 1952 infestation was verified and a survey of the area established the presence of *M. autumnalis* in several additional communities. Its westward spread rivals that of the horn fly, *Siphona irritans* (L.), which in the five years following its discovery near Philadelphia, spread westward to the Rocky Mountains and in 10 years inhabited all parts of the continent.

In 1953 *M. autumnalis* appeared at Riverhead, Long Island, N. Y. and in September, 1956 specimens were taken in Oswego County at the eastern end of Lake Ontario in upstate New York. In December, 1958 *M. autumnalis* adults were found associated with cluster flies, *Pollenia rudis* (F)., near Leesburg, Va., and a month later another lot, this time associated with box elder bugs, *Leptocoris trivittatus* (Say), were located in Hillsboro, Va. Up to this point, practically all references involve infestations in buildings, mostly dwellings.

In June, 1959, Ohio, Indiana, Michigan, and Illinois entomologists began reporting infestations affecting cattle in pastures, and in some cases it appeared that light infestations may have been present in 1958. In 1960, infestations were reported from Iowa, Wisconsin, Minnesota, Missouri, Nebraska, North Dakota, Tennessee, North Carolina and several areas in the New England and North Atlantic coastal states. As of January 1961, *M. autumnalis* was known to be present in 27 states (Figure 1) and in the provinces of Canada from Windsor, Ontario, eastward.

Identification: The adult face fly is slightly larger and usually a little darker than the house fly. The males are most readily distinguished since the eyes of male *M. autumnalis* are so close together they are practically touching, whereas in the case of male *M. domestica* the eyes are well separated. For more detailed descriptions see Vockeroth (1953) or Teskey (1960). Positive identifications should best be left to the judgement of competent taxonomists. Insofar as the layman is concerned, the face fly is probably more easily identified by its habits than by its morphological characteristics. Whenever you encounter flies that for practical purposes resemble house flies but with the larger specimens tending to cluster about the eyes and nostrils of cattle while the smaller specimens sit lazily on posts, shrubs, old machinery or weeds you can bet they are face flies. Likewise, when those other flies associated with the cluster flies and box elder bugs in attics, vacant rooms, etc., look suspiciously like house flies, you can quite safely

*Paper presented before 47th midyear meeting, Chemical Specialties Manufacturers Assn., Chicago, May 17, 1961.

and Control

assume they are face flies.

Economic importance: The adult flies are a source of serious torment to cattle and to a lesser extent to other animals (Figure 2). Excessive annoyance induces nervous tension, and the constant fighting of flies interrupts feeding and reduces nutritional efficiency, all of which results in reduced weight gains and milk production. The distressed appearance of the animals is disturbing to sympathetic humans. Animal owners generally have been most disturbed by the activities of this pest and are very persistent in their demands for relief. The flies' habit of clustering around the eyes unquestionably results in excessive lachrymation, frequently resulting in infections that at times reduce vision to the point of temporary blindness. The face fly has frequently been accused of spreading eye diseases such as pink eye, but this has not been proven.

As Sabrosky (1959) has pointed out, the fact that *M. autumnalis* serves as the intermediate host of *Thelozia rhodesii*, an eye worm affecting cattle in Russia, gives rise to the fear it may establish a similar relationship with an American species of eye worm known to be present on the West Coast.

The overwintering habits of this species give it still another economic aspect. In some American communities and in Europe, the species is best known and most frequently mentioned as a household pest. It is impossible to estimate the economic significance of this aspect of the problem, but it is safe to assume that the total expenditure for control of the house fly in buildings, if known, would be a sizable sum indeed.

Life history and habits: As already indicated, the face flies pass the winter in the adult stage after congregating by the hundreds or even thousands in the walls and attics of buildings to which they find access. The extent to which they can survive the rigors of winter in hollow trees, leaf mulch, etc., is not known, but it seems significant that early spring populations are usually highest in the vicinity of woodlands. We do know that these flies seldom survive long in well heated or occupied rooms.

Adults become active in late spring and a few specimens can be seen warming themselves in sunny exposures soon after the arrival of temperatures above 50° F. Thus, on favorable days face flies may be found on outside walls from late March until early May, and in Illinois infestations on cattle can be expected in April.

Soon after the flies appear on the cattle in the spring they begin depositing eggs in fresh cow dung and when we say fresh, we mean just that. As a matter of fact, female flies begin to appear on fresh manure pies within a moment after they are dropped, but little oviposition occurs until after the formation of a very faint glaze develops, which occurs in from 10 to 20 minutes. In most cases, the number of female face flies on a particular dropping will reach a peak in about 20 minutes, after which it will show a steady decline until the last flies depart between one and two hours later.

The yellowish white oblong eggs, 2.5 mm. long and 0.5 mm. broad, with a slender dark gray to black mast slightly over ½ mm. long at the anterior end are deposited singly, but may appear to be grouped in clusters of six to 10, particularly when deposited in the crevices of a hardening dung crust. Some have referred to the mast as a stalk which might erroneously imply a support rather than a respository function. In depositing her eggs, the female seeks out the more moist areas of the dung surface and inserts each egg its full length into the semi-viscous mass. The eggs hatch within 24 hours and on very warm days the incubation period may be so short as to suggest a semi-viviparous condition.

The larva, which appears to pass through three larval instars, complete their development in

Figure 1. Face fly distribution in the United States as of March, 1961. (Courtesy U. S. Department of Agriculture.)

Distribution of Face Fly

from three to 10 days depending upon temperature and other conditions. The full grown larva closely resembles the mature maggot of the common housefly but is slightly larger and somewhat yellow in color. The mature larvae abandon the droppings and pupate beneath the surface of the soil anywhere from a few inches up to three feet away. Except for its dirty white color and transluscent appearance, the puparia closely resembles that of the common house fly. The pupal stage lasts from six to 20 days. Thus, the total time lapse between deposition of the eggs and emergence of the adult may vary from as little as nine to 10 days in mid-summer to 30 days or more in the early spring and in the fall.

In the field one may find relatively small numbers of flies recently out of hibernation will appear on the faces of cattle as soon as they are turned out to pasture in the spring. In the near vicinity of woods and other good hibernation quarters the numbers may be larger at first and then drop as they disperse to other areas and the overwintering adults die off. Some four to six weeks later populations begin to increase and then as the size of the breeding population increases and the length of the life cycle is reduced, the rate of increase is greatly accelerated. Under central Illinois conditions, peak populations will occur in late August or early September. With the first indication of fall, through some unknown mechanism, the newly emerging flies seem to acquire an overpowering desire to hibernate and they abandon the pasture despite the fact many subsequent days may have conditions favorable for feeding and development. Thus, about September first or soon thereafter, the number of flies per cow takes an abrupt decline and they become hard to find by the end of October. The exact time of these events will, of course, vary from season to season and area to area. For example, in 1960 the warmest week of the year came

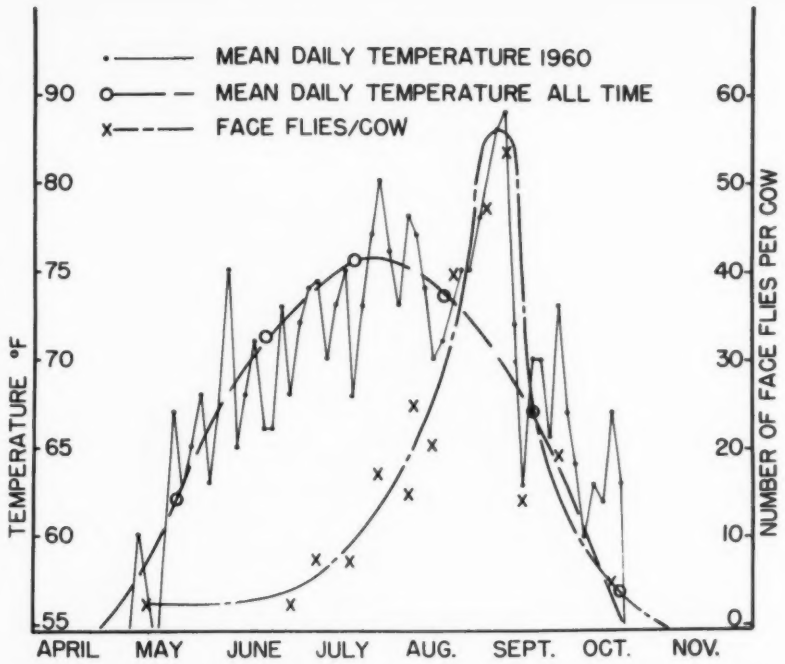

Figure 3. Seasonal abundance of face flies on dairy cows in central Illinois in 1960.

September 1 to September 8 and peak face fly poulations per animal were recorded at that time when in other years they might have already dropped to a relatively low level (Figure 3).

The collection, reporting, and interpretation of data on face fly population densities is fraught with many possible errors. In the first place, the habits of the sexes are quite different. The males, which are nectar feeders, spend most of their time on plants, particularly flowers, or resting upon miscellaneous objects merely awaiting the chance passage of a female fly. They very rarely appear on animals, or for that matter in the immediate vicinity of animals. The females, on the other hand, feed on nectar, dung juices, saliva, blood, and all sorts of animal secretions. It is possible blood or some particular fluids of animal origin may be essential to the proper maturing of the eggs. In any case, except during the hibernation period, the female flies are quite intimately associated with animals, particularly cattle. Even so, only a portion of the flies present in a given pasture are to be found on the animals at any one time. At times one finds that there are far more face flies on the vegetation within 100-200 yards of the herd than there are on the animals themselves, and in the immediate vicinity of the herd these may be predominantly females.

The activity of adult face flies seems to be strongly influenced by temperature, light, wind velocity, rain, and degree of animal activity. Flies are found on cattle only during the day. At night they roost on vegetation and other available supports. At dawn or soon thereafter, the females begin to move over to the animals. The time and rate of this movement seems to be closely related to temperature. If other conditions are favorable, it may start slowly at temperatures of 50-55° F., or it may start off with a bang if temperatures are in the high sixties or seventies. In general, one may expect peak populations to occur between 10:00 A.M. and 3:00 P.M. on clear, hot days. Shortly after 3:00 or 4:00 P.M., the fly populations on the animals show a rather abrupt decline even though temperatures may still be higher than those re-

quired to initiate the first movement to animals in the morning. Wind, rain, and excessive animal activity may reduce the numbers of flies on animals to 1/5 or even 1/10 the number to be expected under ideal conditions. Thus, reported numbers of face flies per face, per animal, etc., may have very little meaning unless conditions prevailing at the time are indicated.

Allowing for the obvious difference in climatic conditions and farm management practices, our observations on the life cycle and seasonal history of the face fly in Illinois are in remarkable agreement with those made by Hammer (1942) in Denmark.

Control: Because it seems to combine into one species most of the more baffling characteristics of the other muscoid flies that commonly attack livestock (house fly, stable fly, and horn fly), the face fly cannot be wholly or even practically controlled by any of the common practices currently recommended for the control of flies on cattle.

When no one control measure proved highly effective, research workers in the various states selected that practice which under their local conditions appeared to show the greatest promise and directed their efforts toward the further perfection of that particular practice. In all fairness, it must be said that most of them included in their studies at least some tests involving materials and methods being advocated by their associates in other states. However, all too often they inadvertently omitted one or more of the essential details prescribed by the principal advocate of the practice and therefore they failed to get comparable results. Thus, it is not surprising that none of the procedures proposed has universal acceptance — all of which reminds us that very often it is not so much what we do but how well we do it that counts.

Since face fly breeding is confined almost exclusiviely to freshly dropped cow manure, sanitation is of little or no practical value in controlling the face fly. However, when animals are confined to small areas as in dry lot feeding, the constant tramping tends to limit breeding and if suitable sheds provide adequate deep shade, the face fly problem may be greatly minimized.

In the laboratory, topical application and panel type cage tests seem to show that the face fly is about as susceptible to most of the commonly used insecticides as normal house flies. However, large scale tests involving a whole host of the organophosphate and chlorinated hydrocarbon insecticides normally used as residual treatments proved wholly ineffective when applied to barn and shed walls, fences, etc. Most of the sun bathers resting on such surfaces are males, and while many adult face flies obviously were killed by such treatments, it is possible all those killed were largely expendable males and there may have been an adequate supply of males present on unsprayed vegetation in and around the pastures. Then, too, it is always possible most of the males so killed had already made their provision for posterity before they came in contact with the deadly sprayed surfaces. In any case, it seems significant that none of the research workers has had anything good to say about residual sprays except, I should add, for the control of flies in or seeking hibernation quarters.

Livestock sprays or dusts containing residual toxicants such as DDT, chlordane, toxaphene, malathion, ronnel or Co-Ral gave only temporary relief at best and were soon abandoned by all investigators. Since the flies do not appear to possess resistance or any high degree of tolerance to these chemicals, it is difficult to say just why they were not more effective. Of course, these flies spend much time off the animals and breeding occurs largely out in the open pasture areas, which makes it possible for them to maintain disturbing populations despite a high mortality among those flies that come in contact with the insecticides. Then, too, it is always possible that since this type of treatment has not been popular in recent years, its potentialities were not fully exploited. The residual life or period of effectiveness of such treatments was never long enough to interest greatly beef producers and when such sprays containing DDT and related materials were banned for use on dairy cattle, they were almost universally abandoned.

Figure 4. One type of home-made back rubber in common use for the protection of beef cattle in Illinois.

"Back Rubbers"

Results obtained through the use of residual toxicant and some repellent formulations applied by several types of so-called "back rubbers" have been variable. In general, such devices have little or no place in a dairy operation but do have definite advantages when it comes to controlling flies on beef cattle. While such devices

(*Turn to Page* 121)

Waxed Floors Are Safe

Part II. Technical aspects of alleged negligence arising from use of floor wax. Includes check list of items helpful in defending negligence law suits.

By Dr. J. Vernon Steinle*,
S. C. Johnson & Son, Inc.
Racine, Wis.

I WOULD not presume to tell a defense attorney what information he should collect to defend a negligence suit involving a fall on a waxed floor. However, I do believe it would be useful to such an attorney, and certainly to any expert witness whom he might engage, to have an outline of information pertinent to the testimony of that expert. I, therefore, have prepared a check list of items which I feel are helpful in such a case.

CHECK LIST

I. *The Accident*
- (1) Description of the accident.
- (2) Date and time of the accident.
- (3) Statements of any individual witnesses who observed the accident.

II. *Prevailing Conditions at the Scene of Accident.*
- (1) Weather conditions at the time of the accident.
- (2) Condition of the floor at the time of the accident.
- (3) Location of the floor.
- (4) Frequency of use of floor at the time of the accident.
- (5) Lighting conditions.
- (6) Nature of the floor covering.
- (7) Method of floor maintenance.
  1. Brand name and manufacturer of the floor wax.
  2. Brand name and manufacturer of all products used in maintenance of floor.
  3. Schedule and method of maintenance.
  4. When last waxed.
- (8) How long has the floor been maintained in this manner?
- (9) Frequency of use of the floor during this time.

III. *The Defendant.*
- (1) Statement of individual responsible for the floor maintenance.
- (2) Statement of individual who maintained the floor.

IV. *The Plaintiff.*
- (1) Copy of the allegation of the complaint.
- (2) Statement of the plaintiff as to condition of the floor and the nature of the accident.
- (3) Distance plaintiff traveled on floor before falling.
- (4) Was plaintiff carry bundles which obscured vision?
- (5) Physical condition of plaintiff.
- (6) Mental attitude of plaintiff.
- (7) Footwear of the plaintiff.

V. *Local Influences.*

Discussion

I. *The Accident*

(1) *Description of the accident*: This description should contain all of the facts pertinent to the successful prosecution of the case by the attorney and should be augmented by the details covered below.

(2) *Date and time of the accident*: The date and time of last waxing before the accident should be recorded. If any additional maintenance took place after the last waxing and before the accident, the nature and time of this maintenance should also be recorded.

(3) *Statements of any individuals who observed the accident*: These statements should be prepared with the usual care devoted to statements by witnesses and, if in the form of a deposition, should include questions pertinent to the development of the facts sought in the following suggestions for full

(*Turn to Page* 91)

* Paper presented during 47th midyear meeting, Chemical Specialties Manufacturers Assn., Chicago, May 16, 1961.

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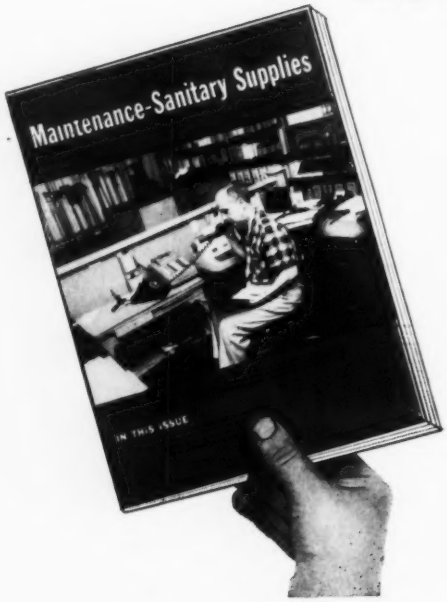

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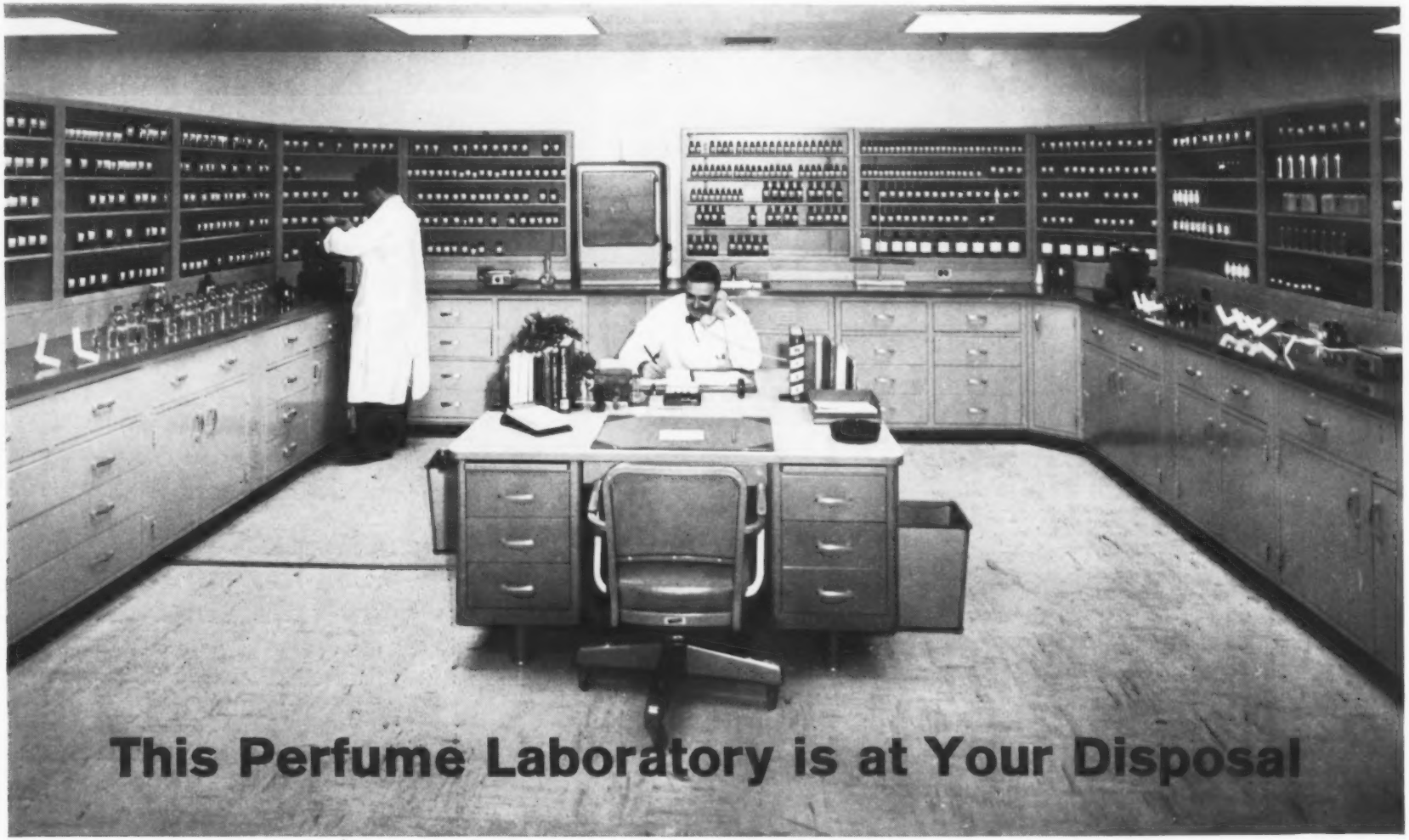

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Waxed Floors Are Safe

(*From Page* 86)

technical information. The normal care in the selection of competent witnesses should be exercised and notes regarding their characteristics prepared.

II. *Prevailing Conditions at the Scene of Accident.*

(1) *Weather conditions at the time of the accident:* Rain may have an important bearing on the condition of the floor surface or the plaintiff's footwear.

(2) Condition of the floor at the time of the accident: The presence of water or other foreign matter on the floor might contribute to the fall, as could holes in the floor covering or other conditions of nonuniformity.

(3) Location of the floor: If the spot on the floor at which the accident occurred is near the entrance conditions are altered, particularly on a rainy day. The presence or absence of a mat at the entrance for patrons to wipe their feet on may be of importance.

(4) Frequency of use of the floor at the time of the accident: It is important to establish whether or not the floor on which the accident occurred was subject to heavy traffic at the time of the accident, or for that matter at any time subsequent to the last maintenance operation or waxing. If many other people used the floor without an accident or without noting or complaining of its condition, the likelihood of the floor condition being the pertinent factor in the accident is lessened. If witnesses who used the floor without incident can be obtained this may be of value.

(5) Lighting conditions: Lighting conditions, both natural and artifical, are pertinent.

(6) Nature of the floor covering: This is an important factor directly related to evidence of proper maintenance. It is a factor about which the facts are often difficult to obtain and which may result in misinformation being offered in testimony.

It is not sufficient to determine merely that the floor covering is linoleum, asphalt tile, vinyl, etc. An attempt should be made to establish the brand name and manufacturer. Since much confusion is often present in the minds of the owner or occupant as to just what kind of floor covering is on the floor. Since even some "experts" make a wrong guess it is best, if possible, to establish this fact from the firm which installed the floor covering. If this is done, the name of the firm and the date of installation should be recorded as well as the brand name and manufacturer of the covering for possible reference.

(7) Method of floor maintenance: This is the most important item on the check list. For this reason I have placed several subheadings on the list, also. This information may be duplicated in other items on this list. It is of vital importance and if the expert witness can testify that the method of maintenance used is the proper one according to directions and customary use, and the individuals responsible for the maintenance of the floor on which the accident occurred can testify to this effect, the claim of negligence in the defendant's maintenance of the floor will receive a damaging blow. The answers to all of the questions posed under this heading should be included in the statements suggested in Para. 3 (The Defendant).

1. The brand name and manufacturer of the floor wax used should be ascertained. It is not sufficient to say that "a liquid wax manufactured by Johnson's Wax" was used. The brand must be designated, i.e., "Glo-Coat", "Waxtra", "Step-Ahead", or "Beautiflor Liquid Wax", etc. The date of purchase of the container used, the size of the container, and the source of the purchase is also helpful, and the actual container used should be preserved if still available.
2. The same information, that is, brand name, manufacturer, etc., should be recorded for any other materials used in the maintenance of the floor in question.
3. The schedule of main-

(*Turn to Page* 95)

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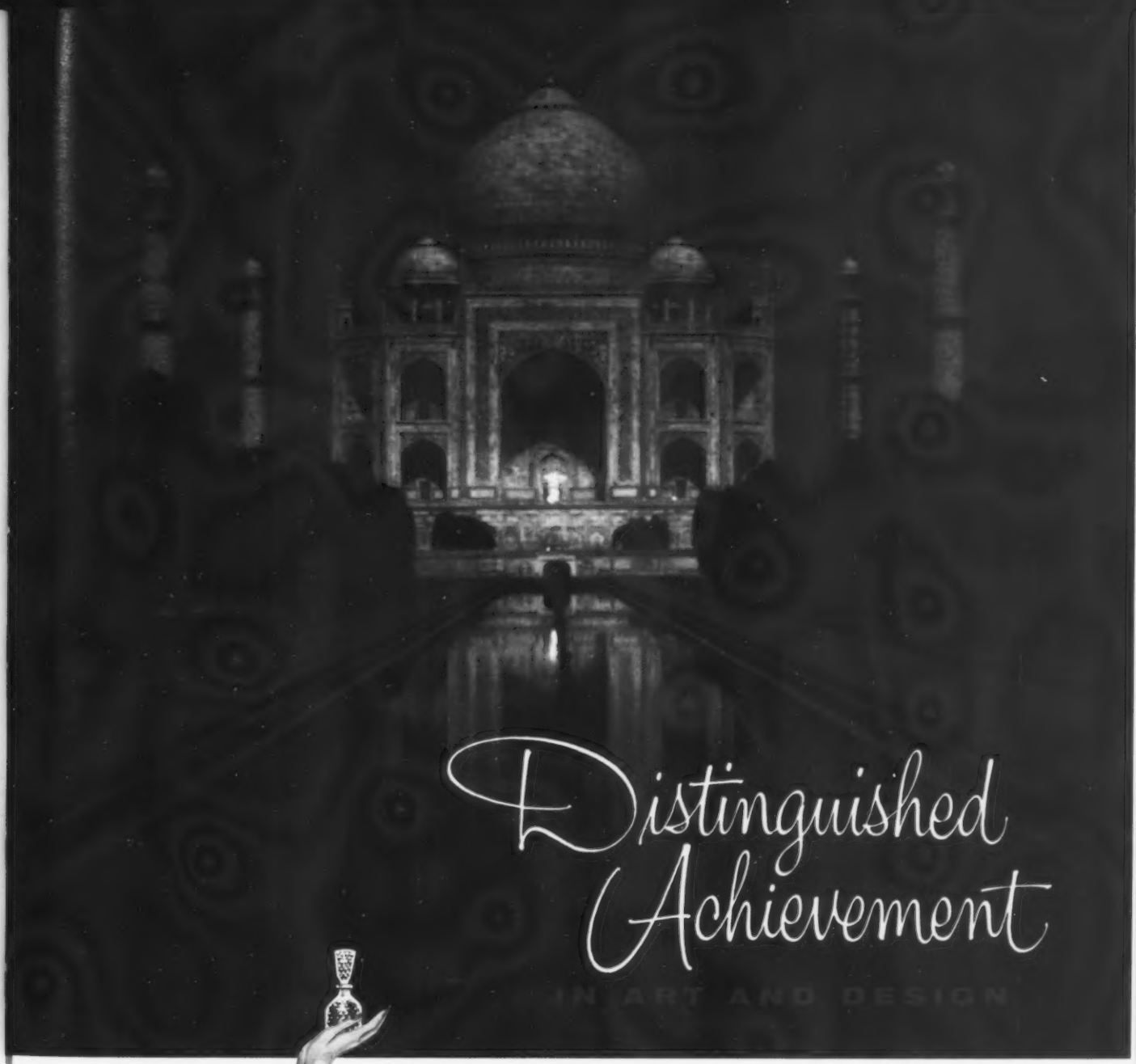

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tenance should contain a full statement of everything that is done to the floor and at what intervals. For example: the floor is swept with a nontreated dust mop daily; damp mopped twice a week, on Wednesdays and Saturdays, with a string mop using warm water with "x" ounces of "y" detergent in a pail of water and allowed to dry without rinsing; every fourth week, on Saturday night, the floor is scrubbed with an electric floor scrubber using hot water with "c" ounces of "d" detergent in a pail of water, rinsed with warm water, a coat of "f" wax is applied with a string mop, the floor allowed to dry for one hour and then buffed with an electric floor polisher. Care should be taken to include in the statement information as to compliance with any special instructions contained on the labels of the floor maintenance products used and if they were followed.

4. The date and time of last waxing before the accident should be recorded, including the time the waxed floor was allowed to stand before traffic use. If any additional maintenance took place after the last waxing and before the accident, the nature and time of this maintenance should also be recorded.

(8) *How long has the floor been maintained in this manner?*: The longer the floor has been maintained in the same manner the better the case for the defense. It is sometimes contended that changes in conditions without notification constitute negligence.

(9) Frequency of use of the floor during this time; Heavy use of the floor during the period of constant maintenance has the same advantage as indicated in subparagraph (4).

III. *The Defendant.*

(1) *Statement of the Individual Responsible for the Floor Maintenance*: This does not mean the custodian who did the work but his supervisor. This statement should include the maintenance procedure as established by the supervisor or owner of the establishment in which the accident occurred, and this individual's knowledge of the manner in which his orders have been carried out. If a deposition is taken, questions pertinent to the development of the facts sought in the preceding suggestions for full technical information should be asked.

(2) Statement of the individual who maintained the floor: This is a statement of the custodian and whether in the form of a statement or deposition should include, in addition to the name, age, duties, supervision, tenure of job, etc., the answer to all questions suggested by paragraph 2 which can be obtained from this individual and which are pertinent to the technical information sought.

IV. *The Plaintiff.*

(1) *Copy of the allegations of the complaint*: Very often the allegations will claim too much wax has been applied which must be explained or it may be contended that it is negligent to wax a floor. This contention must be attacked by proving its irrelevance.

(2) Statement of the plaintiff as to the condition of the floor and the nature of the accident: A statement or deposition of the plaintiff is very helpful to the expert witness in preparing his testimony. Such statement often includes words to the effect "I could tell that the floor was slippery by looking at it; it was shiny; when I slipped a skid mark was left on the floor; my clothes had wax on them where they touched the floor." Some such statements indicate contributory negligence whereas others must be explained.

(3) Distance which the plaintiff traveled on the floor before falling; The further the plaintiff traveled on the floor surface if it was of uniform condition, the less likely is the condition of the floor to be the determining factor in the fall.

(4) Was the plaintiff carrying bundles which obscured vision?: If the plaintiff's vision was obscured by such bundles, the condition of the floor could not be observed and proper care in walking could not be taken.

(5) Physical condition of the plaintiff: The physical condition of the plaintiff at the time of the accident is of importance. Any

(*Turn to Page* 126)

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Revised Labeling Regulations

Complete text of revised regulations for enforcing Federal Hazardous Substances Labeling Act, effective February 1, 1962.

LABELING REQUIREMENTS

§ 191.101 Placement, conspicuousness, contrast.

(a) The signal word, the statement of the principal hazard or hazards, and instruction to read carefully any cautionary information that may be placed else where on the label shall appear together on the main panel of the label. Such information shall be placed together and distinctively apart from other wording or shall be achieved by placement within the borders of a square or rectangle with or without a borderline, and by use of suitable contrasts with the background achieved by distinctive typography or color, and by both color and typography when needed.

(b) If the product is "highly toxic" as defined in § 191.1(e) the labeling shall also include in conjunction with the word "poison," the skull and crossbones symbol.

(c) The signal word and statement of hazard shall be in capital letters. The size of the signal word (and the word "poison" if required) shall be of a size bearing a reasonable relationship to the other type on the main panel, but shall not be less than 18 point type, and the size of the statement of hazard shall not be less than 12 point type, unless the label space on the container is too small to accommodate such type size. When the size of the label space requires a reduction in type size, the reduction shall be made to a size no smaller than is necessary and in no event to a size smaller than 6 point type.

(d) All the items of label information required by section 2(p) (1) of the act (or by regulations prescribing additional information under section 3(b)) may appear on the main panel; but if they do not, all items except those required by paragraph (a) of this section to appear on the main panel, shall be placed together in a distinctive place with adequate contrast, achieved by typography, color, or layout, in proximity to the directions for use. The type size required for this additional information shall bear a reasonable relationship to the other type used and shall be no smaller than 10 point unless the available label space requires reductions, in which event it shall be

Part II

reduced no smaller than necessary and in no event smaller than 6 point type unless because of small label space an exemption has been granted under section 3(c) of the act and § 191.63.

§ 191.103 Condensation of label information.

Whenever the statement of the principal hazard or hazards itself provides the precautionary measures to be followed or avoided, a clear statement of the principal hazard will satisfy both the provisions of section 2(p) (E) and (F) of the act. When the statement of precautionary measures in effect provides instruction for first-aid treatment, the statement of the precautionary measures will satisfy both section 2(p) (F) and (G) of the act.

§ 191.105 Labeling requirements for accompanying literature.

When any accompanying literature includes or bears any directions for use (by printed word, picture, design, or combination of such methods), such placard, pamphlet, booklet, book, sign, or other graphic or visual device shall bear all the information required by section 2(p) of the act.

§ 191.106 Substances determined to "special hazards."

Whenever the Commissioner determines that for a particular hazardous substance in a container intended or suitable for household use, the requirements of section 2(p) of the act are not adequate for the protection of the public health and safety because of some special hazard, he shall by order publish in the FEDERAL REGISTER such reasonable variations or additional label requirements as he finds necessary for the protection of the public health and safety. Such order shall specify a date not less than 90 days after the order is published, unless emergency conditions stated in the order specify an earlier date, after which any container of such hazardous substance intended or suitable for household use which fails to bear a label in accordance with such order shall be deemed to be a misbranded package of a hazardous substance.

§ 191.107 Substances with multiple hazards.

(a) Any article that presents more than one type of hazard (for example, if the article is both "toxic" and "flammable") must be labelled with an affirmative statement of each such hazard; precautionary measures describing the action to be followed or avoided for each such hazard; instructions, when necessary or appropriate, for first-aid treatment of persons suffering from the ill effects that may result from each such hazard; instructions for handling and storage of packages that require special care in handling and storage because of more than one type of hazard presented by the article, as well as the common or usual name (or the chemical name if there is no common or usual name) for each hazardous component present in the article.

(b) Label information referring to the possibility of one hazard may be combined with parallel information concerning any additional hazards presented by the article; *Provided*, That the resulting condensed label statement shall contain all of the information needed for dealing with each type of hazard presented by the article.

§ 191.108 Label comment.

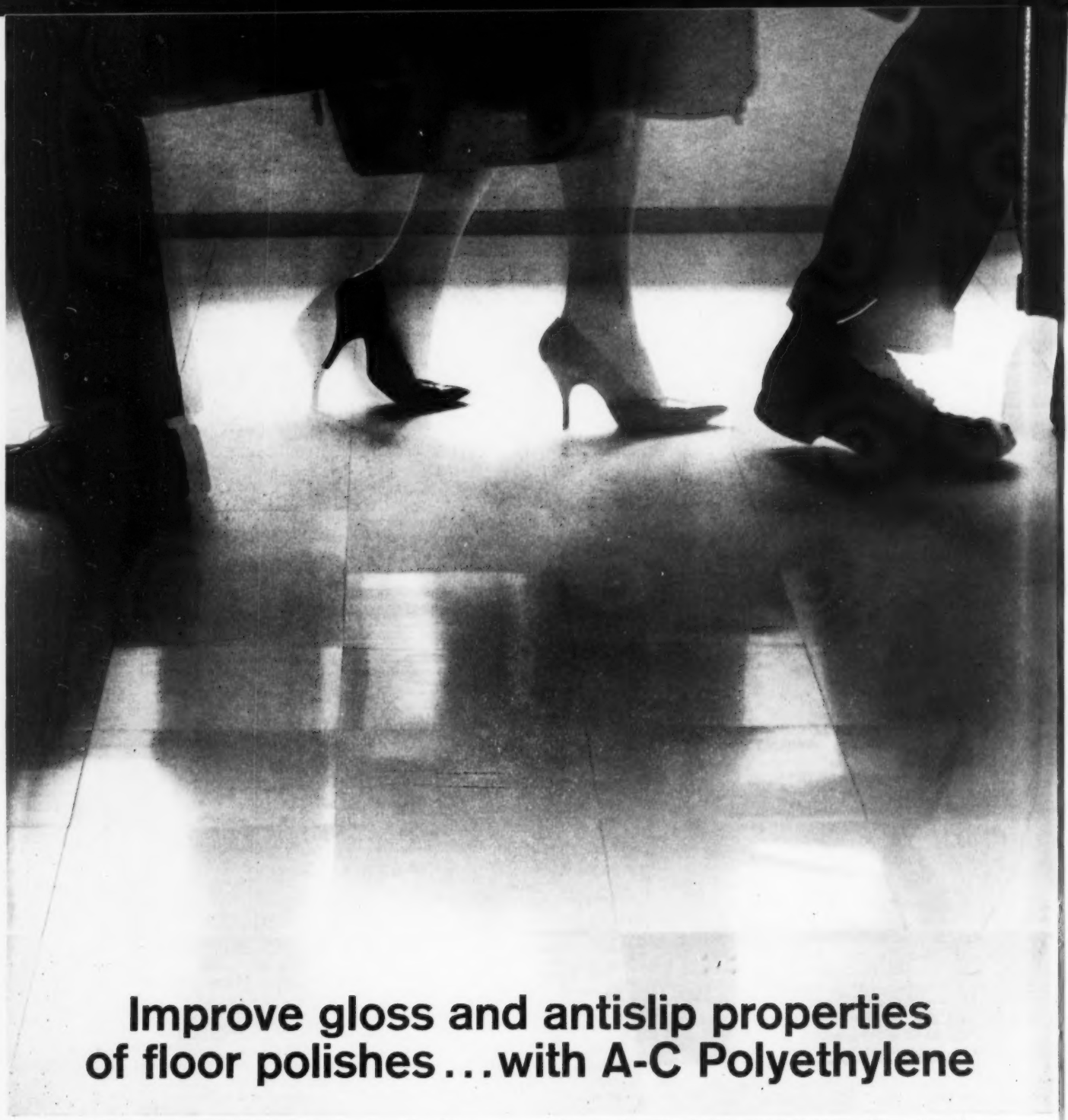
The Commissioner will offer informal comment on any proposed label and accompanying literature involving a hazardous substance if he is furnished with:

(a) Complete labeling or proposed labeling, which may be in draft form.

(b) Complete quantitative formula.

(c) Adequate clinical pharmacological, toxicological, physical, and chemical data applicable to the possible hazard of the substance.

(d) Any other information available that would facilitate preparation of a suitable label, such as complaints of injuries resulting from the product's use, or other evidence that would furnish human-experience data.



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§ 191.109 Substances named in the Federal Caustic Poison Act.

The Commissioner finds that for those substances covered by the Federal Caustic Poison Act (44 Stat. 1406), the requirements of section 2(p)(1) of the Federal Hazardous Substances Labeling Act are not adequate for the protection of the public health. Labeling for those substances, in the concentrations listed in the Federal Caustic Poison Act, were required to bear the signal word "poison." The Commissioner believes that the lack of the designation "poison" would indicate to the consumer a lesser hazard that heretofore and that such would not be in the interest of the public health. Under the authority granted in section 3(b) of the act, the Commissioner therefore finds that for the following substances, and at the following concentrations, the word "poison" is necessary instead of any signal word.

(a) Hydrochloric acid and any preparation containing free or chemically unneutralized hydrochloric acid (HCl) in a concentration of 10 percent or more.

(b) Sulfuric acid and any preparation containing free or chemically unneutralized sulfuric acid (H_2SO_4) in a concentration of 10 percent or more.

(c) Nitric acid or any preparation containing free or chemically unneutralized nitric acid (HNO_3) in a concentration of 5 percent or more.

(d) Carbolic acid (C_6H_5OH), also known as phenol, and any preparation containing carbolic acid in a concentration of 5 per cent or more.

(e) Oxalic acid and any preparation containing free or chemically unneutralized oxalic acid ($H_2C_2O_4$) in a concentration of 10 percent or more.

(f) Any salt of oxalic acid and any preparation containing any such salt in a concentration of 10 percent or more.

(g) Acetic acid or any preparation containing free or chemically unneutralized acetic acid ($HC_2H_3O_2$) in a concentration of 20 percent or more.

(h) Hypochlorous acid, either free or combined, and any preparation containing the same in a concentration that will yield 10 percent or more by weight of available chlorine.

(i) Potassium hydroxide and any preparation containing free or chemically unneutralized potassium hydroxide (KOH), including caustic potash and vienna paste (vienna caustic), in a concentration of 10 percent or more.

(j) Sodium hydroxide and any preparation containing free or chemically unneutralized sodium hydroxide (NaOH), including caustic soda and lye in a concentration of 10 percent or more.

(k) Silver nitrate, sometimes known as lunar caustic, and any preparation containing silver nitrate ($AgNO_3$) in a concentration of 5 percent or more.

(l) Ammonia water and any preparation containing free or chemically uncombined ammonia (NH_3), including ammonium hydroxide and "hartshorn," in a concentration of 5 percent or more.

PROCEDURAL REGULATIONS

§ 191.201 Procedure for the issuance, amendment, or repeal of regulations declaring particular substances to be harzardous substances.

(a) The Commissioner may, upon his own initiative or upon the petition of any interested person, showing reasonable grounds therefor, propose the issuance, amendment, or repeal of any regulation provided for in section 3(a) of the act, declaring particular substances to be hazardous substances. The proposal shall be published in the FEDERA REGISTER, with an invitation for written comments. As soon as practicable after the comments have been received, the Commissioner shall by order act upon the proposal to declare the substance to be a hazardous substance for purposes of the act, or to amend or repeal any regulation previously issued.

(b) Within 30 days after publication of such order, any person who wil be adversely affected thereby, if placed in effect, may file objections and a request for a public hearing. The objections shall not be accepted for filing if they fail to establish that the objector will be adversely affected by the regulation, if the objections do not specify with particularity the provision of the regulation to which objection is taken or if the objections do not state reasonable grounds. Reasonable grounds are grounds from which it is reasonable to conclude that facts can be established by reliable evidence at the hearing which will call for changing the provisions specified in the objections, Whenever legally valid objections have been filed, a public hearing on the objections will be held.

(c) As soon as practicable after the time for filing objections has expired, the Commissioner shall publish a notice in the FEDERAL REGISTER specifying the parts of the order that have been stayed by proper objections, or, if no objections have been filed, stating that fact.

(d) The procedure at such public hearing shall follow as nearly as practicable procedure described in § 120.14 through § 120.28 of this chapter.

(e) The Assistant General Counsel for Food and Drugs of the Department of Health, Education, and Welfare is hereby designated as the officer upon whom a copy of any petition for judicial review shall be served. Such officers shall be responsible for filing in court the record on which the order of the Commissioner is based in accordance with 28 U.S.C. 2112.

PROHIBITED ACTS AND PENALTIES

§ 191.210 General.

The provisions of these regulations with respect to the doing of any act shall be applicable also to the causing of such act to be done.

§ 191.211 Guaranty.

In case of the giving of a guaranty or undertaking referred to in section 5(b)(2) of the act, each person signing such guaranty or undertaking, or causing it to be signed, shall be considered to have given it. Each person causing a guaranty or undertaking to be false is chargeable with violations of section 4(d) of the act.

§ 191.212 Definition of guaranty; suggested forms.

(a) A guaranty or undertaking referred to in section 5(b)(2) of the act may be:

(1) Limited to a specific shipment or other delivery of an article, in which case it may be a part of or attached to the invoice or bill of sale covering such shipment or delivery; or

(2) General and continuing; in which case, in its application to any shipment or other delivery of an article, it shall be considered to have been given at the date such article was shipped or delivered, or caused to be shipped or delivered, by the person who gives the guaranty or undertaking.

(b) The following are suggested forms of guaranty or undertaking each section 5(b)(2) of the act:

(1) *Limited form for use on invoice or bill of sale.*

.....
(Name of person giving the guaranty or undertaking)
hereby guarantees that no article listed herein is in a misbranded package within the meaning of the Federal Hazardous Substances Labeling Act.

.....
(Signature and post-office address of person giving the guaranty or undertaking)

(2) *General and continuing forms.*

The article comprising each shipment or other delivery hereafter made by .....

.....
(Name of person giving the guaranty or undertaking)
to, or on the order of .....

.....
(Name and post-office address of person to whom the guaranty or undertaking is given) is hereby guaranteed, as of the date of such shipment or delivery, to be, on such date, not in a misbranded package within the meaning of the Federal Hazardous Substances Labeling Act.

.....
(Signature and post-office address of person giving the guaranty or undertaking)

(c) The application of a guaranty or undertaking referred to in section 5(b)(2) of the act to any shipment or other delivery of an article shall expire when such article, after shipment or delivery by the person who gave such guaranty or undertaking becomes misbranded

(*Turn to Page* 128)

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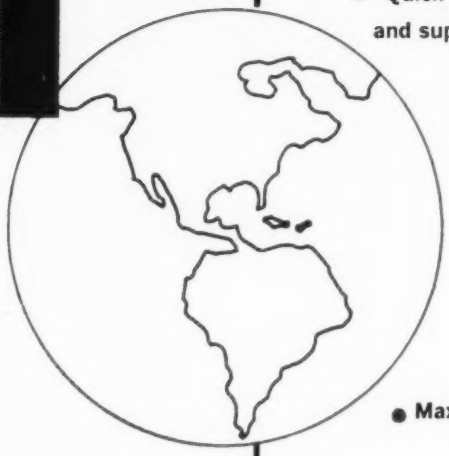

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Bacteriostatic Additives

Bacteriostats for soaps and chemical specialties featured at eighth annual seminar of the Society of Cosmetics Chemists, in New York, Sept. 26-27

BACTERIOSTATIC additives in toilet soaps and synthetic detergents were among the major topics viewed at the eighth annual seminar of the Society of Cosmetic Chemists held at the Barbizon Plaza Hotel, New York, Sept. 26 and 27. "Biological Activity in Cosmetics" was the general theme of the seminar which included 13 scientific contributions by representatives of academic institutions, cosmetic industry, and the medical profession. H. W. Zussman of Geigy Chemical Corp. was chairman.

Actually, at this gathering the industry paused to think how far personal products had gone and should go towards being topically applied drugs. At least this is the impression received by an observer listening to the presentations.

"Should Bacteriostats be Added to Toilet Soaps?" was the question raised and discussed in a paper by W. M. Linfield and R. E. Casely, Grocery Products Division of Armour & Co., Chicago. To justify its existence—ethically and commercially—an additive must

1. Benefit the user;
2. be effective at the level at which it is present in the final product, when used under normal conditions;
3. have believability as far as the general public is concerned:
4. be safe to humans under the normal and prescribed conditions of usage; and
5. exhibit no adverse side effect in areas other than human safety.

Elaborating on these stipulations, Dr. Linfield pointed out that toilet soap, incorporating inadequate concentrations of bacteriostats, could only undermine public confidence in the entire category of such products. Speaking of "believability" he recalled that the public had to be educated to recognize the not entirely obvious connection between body odor and antibacterial activity. Side effects hampering sales might include discoloration of skin or clothing, toxicity to pets and other incidental disadvantages.

Benefits to the user of a toilet soap containing antibacterial additives include improved personal hygiene by partial degerming of the skin and reduction of body odor, Dr. Linfield stated. He then described the *in vitro* and *in vivo* tests developed and used to substantiate these claims. To eliminate some of the shortcomings of the modified Price-Cade handwashing technique a bathing test is being used successfully to determine reduction of the bacterial flora on the skin, Dr. Linfield reported.

Dr. W. M. Linfield

The Price-Cade procedure suffers from two drawbacks, the speaker pointed out: The hand is the most heavily contaminated (bacteriologically and chemically) area of the body and the procedure is awkward requiring a large panel for significant results. Wide fluctuations in results call for statistical analysis. The new bathing test, currently carried out on infants but applicable to adults, eliminates these difficulties.

Activity against a wide spectrum of micro-organisms is one of the prerequisites for an effective antibacterial agent in toilet soaps. Dr. Linfield showed a table giving antibacterial spectra in soap for hexachlorophene, trichlorcarbanilide and a synergistic equal mixture of the two (coded AT-7), which is the active ingredient in Armour's "Dial" soap.

The speaker then referred to the wide-spread use of anti-bacterial soap and detergents in hospitals and by the medical profession in general. Most of the bacteriostats incorporated in soaps are particularly effective against Gram positive organisms and are a useful tool in the fight against staphylococcal cross infections, he said.

Toxicity tests on "Dial" soap were carried out not only to ascertain that the product was perfectly harmless, even when used in an anomalous fashion, but also in order to comply with the regulations of the Food and Drug Administration, Dr. Linfield said. He then described the tests and showed a tabulation of toxicity data. Soap without additive does not have to meet the agency's requirements.

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Soap *claiming* antibacterial action is subject to the provisions of the Federal Food, Drug, and Cosmetic Act; whereas soap containing an antibacterial but making no claim is not covered. Dr. Linfield cited a number of examples where the legislative anomalies produce situations which may be called ludicrous.

So far, no bacterial resistance to soap bacteriostats has been established, but it cannot be entirely dismissed as a future possibility, the author believes.

Bacteriostats for toilet soap currently available include hexachlorophene, trichlorocarbanilide, trichlorosalicylanilide, tribromosalicylanilide, tetrachlorosalicylanilide, and bithionol. All but one of these are phenolic compounds and all are halogenated aromatic compounds. In each case two benzene rings are linked by a bridge which may be a sulfur, methylene, urea or amide. None of these is perfect, Dr. Linfield feels. All of the phenolics discolor upon exposure to light, are somewhat sensitive to heat and oxidation; all are less effective against Gram negative organisms than against Gram positive ones, it was pointed out. Neutralization or potentiation of an antibacterial by certain surface active agents and the mechanism of these phenomena are fields yet to be explained and fully exploited, Dr. Linfield said. In conclusion, he envisaged a deodorant bar of the future containing a novel synthetic surfactant with pronounced antibacterial activity.

Incorporation of bacteriostats in toilet soaps was one of many important questions dealt with by Emil G. Klarmann of Lehn & Fink Products Corp., in a paper entitled "The Open Problem of Biological Activity in Cosmetics." Should drugs and cosmetics mix? was one of the questions raised by Dr. Klarmann, who reminded the audience that a product claimed to affect any physiological function of the body automatically becomes a drug by definition under the Federal Food, Drug, and Cosmetic Act.

Dr. E. G. Klarmann

Any personal product claiming biological activity is included in this category, it was pointed out.

According to Dr. Klarmann "the pragmatic criterion of a 'biologically active cosmetic' should be the evidence of a topical, nontraumatic pharmacodynamic action, either accompanied or followed by a cosmetically desirable effect, but free from any undesirable systemic involvement." Within this stringently limited definition Dr. Klarmann viewed bacteriostatic toilet soaps. Deodorant soaps and synthetic detergents are intended to stop body odor due to the cutaneous bacterial flora by inhibiting the activity of these microorganisms. Hexachlorophene was the first commercially available soap bacteriostat, with bithionol, trichlorocarbanilide, tetrachlorosalicylanilide, tetramethyl thiuram, and others following in quick succession.

Dr. Klarmann pointed out that detergency may be presumed to interfere with deposition and retention of these compounds on the skin. By comparison, bacteriostats incorporated in creams and lotions may build up faster, he said.

A very important function of bacteriostatic soaps and detergents is in the field of hand hygiene, where their degerming action plays an essential part, according to the author. The hands are common vehicles of transmission for staphylococcus and other pathogenic organisms, it was pointed out. However, the limitations of soap bacteriostats must be clearly recognized, Dr. Klarmann said, stressing that most of these compounds are weak against Gram negative organisms.

Bacteriostatic soaps and detergents have only inhibitory activity. Whether formulators should aim at microbicidal properties was one of the open questions raised by the speaker, who believes that the optimally effective antibacterial soap has yet to be developed. If the chemists fail to come up with an answer, reeducation of surgeon and layman becomes necessary, according to Dr. Klarmann.

Other biologically active cosmetics discussed by the speaker included deodorants containing antibiotics; preparations incorporating vitamins, hormones, steroids, and sunscreens.

Safety considerations pertaining to the use of bacteriostatic soaps and detergents reportedly prompted the work presented by Thomas E. Furia of Geigy Chemical Corp. Entitled "Skin-Bacteriostat Relations", the paper dealt with the influence of variables on bacteriostat adsorption and retention on the skin. Compounds investigated include hexachlorophene, trichlorocarbanilide (TCC), tetrachlorosalicylanilide (TCSA), and trifluoromethyldichlorocarbanilide (CF 3), which are bacteriostats, and dichlorobenzoxazolinone, which is a fungistatic agent.

Substrates for the experiments described by Mr. Furia were five per cent (w/v) dispersions in distilled water of commercially available soap and detergent bars. Concentrations of bacteriostat varied from 0.2 to 2.0 per cent based on the weight of soap or detergent. The pH of the soap dispersion was 9.6, that of the detergent 7.2, except in one series where it was also raised to 9.6.

These dispersions were applied to the subjects' hands after a stringent prewashing regimen had been followed, Mr. Furia reported. The bacteriostats were re-

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moved from the skin by a solvent extraction technique developed by Compeau (*J.A.P.A.*, 1960, vol. 49, p. 574). The solvents containing the bacteriostats were analyzed by UV spectrophotometry and the extinction coefficients of the various bacteriostats were calculated.

In addition to determining the concentration of antimicrobial on the skin by solvent extraction technique, an UV spectrophotometric analysis of unadsorbed material was conducted, Mr. Furia reported.

Combined use of the two methods showed that adsorption was unequal on different parts of the hand, according to the author. The fungistat FP applied at one per cent from a 20 per cent sodium lauryl sulfate solution was found adsorbed on the palm area at the rate of 40 to 50 per cent, whereas only 10 to 20 per cent adsorption was established for the entire hand.

TCSA was reported more strongly adsorbed than hexachlorophene: At 0.2 per cent concentration hexachlorophene adsorption from a detergent was 1.5 mg/cm² of skin compared with 7.5 mg/cm² calculated for TCSA, Mr. Furia said. At 0.5 per cent concentration, hexachlorophene adsorption was 4 mg/cm² compared with 11.5 mg/cm² for TCSA.

Adsorption of both compounds was maximal after five to 10 minutes' application and skin substantivity of both was greater from detergents than from soap, Mr. Furia reported.

The polyhalogenated carbanilides were less substantive to the skin than either TCSA or hexachlorophene, with TCC adsorption being a little greater from soap, and CF 3 being adsorbed more readily from detergents.

Describing the influence of varying pH on bacteriostat adsorption, Mr. Furia stated that almost twice as much hexachlorophene was adsorbed at pH 6 than at pH 9. Effect of alkalinity upon TCSA substantivity was termed "far less severe", and substantivity of carbanilides was unaffected by alkalinity. Differences observed in adsorption of CF 3 and TCC were due to substrate composition and probably related to surface activity, Mr. Furia believes.

Hexachlorophene and TCSA were more easily removed from the skin by a detergent than by soap, with hexachlorophene being desorbed more readily than TCSA by either washing agent. Polyhalogenated carbanilides were hardly desorbed by either detergent or soap.

"The Use of Fluorides in Anticariegenic Dentifrices" was the subject discussed by D. S. Barrie of Procter & Gamble Co. Having traced the history of fluoride dentifrices, the speaker explained the need for an effective product of this type, both as a supplement to fluoridation of water and to afford protection to residents of areas where fluoridation had not yet been introduced. He described some of the clinical tests which led to the recognition of stannous fluoride containing dentifrice. Mr. Barrie dealt at length with the safety testing aspects pertaining to such a product.

Other papers included: "Anti-Inflammatories", by Dr. Norman Orentreich, N. Y. University School of Medicine; "Should Sunscreens Be Incorporated into Cosmetics?", by Dr. John M. Knox, Baylor University College of Medicine; "Enzymes", by K. L. Howard, Wallerstein Co.; "Effects of Estrogens on Sebaceous Glands," Dr. John Strauss, Boston University School of Medicine; "Pregnenolone Acetate, a Dermatologically Active Steroid," Dr. John Silson, Revlon, Inc.; "Vitamins", by S. H. Rubin, Hoffman LaRoche, Inc.; "Anticholinergics", by J. F. Migliarese, Colgate-Palmolive Co.; "Antibiotics", by Vincent de Gennaro and R. E. Mackie, Chas. Pfizer & Co., and "Mechanism of Bacteriostatic Action", by Eugene D. Weinberg, Indiana University.■

Scientific Section Meets

Members of the toilet goods industry will meet with representatives of Government agencies and medical men to deal with technical questions of mutual interest at the Nov. 29 meeting of the Scientific Section of the Toilet Goods Association. The group will convene in the Empire Room of the Waldorf Astoria Hotel. At the morning session the following papers will be presented:

"Properties and Reactions of Hair After Treatment with Mercaptans and Differing Sulfhydryl Acidities," by J. W. Haefele and R. W. Broge, Procter & Gamble Co.;

"Response of Normal and Damaged Human Skin to Prolonged Topical Treatment with Female Hormones," by Herbert J. Spoor, Ph. D. and M. D., Cornell University College of Medicine;

"Use of Water Soluble Certified Dyes in Oily Media," by Robert L. Goldemberg, Sheila O'Leary and Nathan A. Ziskin, Shulton, Inc.; and

"The Determination of Bacteriostats in Cosmetics: Para-hydroxy-benzoate, Dichlorophenes, Hexachlorophene," by P. D. Derry, M. Holden and S. H. Newburger, Division of Color and Cosmetics, Food and Drug Administration, Department of Health, Education, and Welfare.

The afternoon session will be devoted to the subject of color additives in personal products. A panel of experts in the field will answer questions from the floor and from members who may wish to send their question to the association in advance of the meeting.

Luncheon will be in the Sert Room of the Waldorf-Astoria Hotel.

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New Phosphate Plant

A new plant for the production of phosphoric acid and sodium tripolyphosphate will be built by Monsanto Chemical Co., St. Louis, Mo., on a 100 acre site five miles south of Augusta, Ga. Construction is to start early next year with completion scheduled for early 1963.

The STPP is intended to supply the "Southeast's fast growing detergent and metal industries," according to E. J. Bock, Monsanto vice-president and general manager of the inorganic chemicals division.

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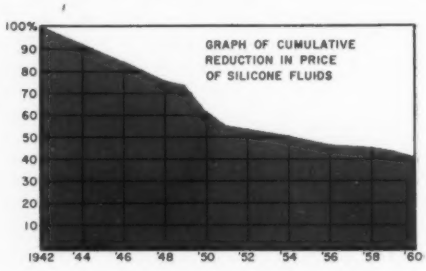

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Tentative CSMA December Program

THE Federal Hazardous Substances Labeling Act and its bearing upon the chemical specialties industry will probably overshadow all other issues at the 48th annual meeting of the Chemical Specialties Manufacturers Association. CSMA will convene Dec. 4 through 6 at the Roosevelt Hotel, New York City. Each of the six divisions of which CSMA is composed will concern itself with the hazardous substances labeling law at one of the separate divisional sessions to acquaint members with the act's actual and potential effects on each facet of the industry.

A panel session dealing with the law will highlight the general session scheduled for Wednesday morning, Dec. 6. Two representatives of the Food and Drug Administration will be on hand to answer questions pertaining to the Hazardous Substances Labeling Act and its enforcement. At the general session, Charles E. Beach of John C. Stalfort & Sons, Inc., Baltimore, president of CSMA, will officially welcome members and report on the association's activities in 1961 and its plans for the future. Mr. Beach's presidential address will be followed by a talk to be presented by Richard C. Hottelet, CBS correspondent at the U. N.

The Aerosol Division has so far announced three papers for its session on Wednesday afternoon, Dec. 6: "The Piston Aerosol Can," by Robert Schultz of Bradley Sun Division, American Can Co.; "Aerosol Paint Propellants," by Thomas Hartley of Union Carbide Chemical Co., New York; and "Status of the Amendment to the Regulations of the New York City Fire Department," by Charles Beach of John C. Stalfort & Sons, Inc., Baltimore.

"Germicidal Aerosols" will be the theme of a joint session of the Aerosol Division and the Disinfectants and Sanitizers Division, set for Tuesday afternoon, Dec. 5.

The Automotive Division is planning two sessions, one on Tuesday morning, Dec. 5, and an aerospace program Wednesday afternoon, Dec. 6. A representative of Jefferson Chemical Co., Houston, will speak on "Antifreeze Evaluation by Simulated Dynamometer."

A new departure is planned by the Detergent and Cleaning Compounds Division, which will—for the first time—have an all day program, Tuesday, Dec. 5. "Heavy Duty Liquid Detergent Systems" will be the theme of the session for which four papers have so far been definitely announced: "Phosphate Surfactants, Their Uses and Properties," by L. R. Mayhew, and Fred Krupin, Antara Chemicals, Sales Division of General Aniline & Film Corp., New York; "Amphoteric Surfactants—New Products and Applications," by Hans S. Mannheimer, Miranol Chemical Co., Irvington, N. J.; "Alkali Soluble Acrylic Emulsions as Stabilizers for Built Nonionic Liquid Detergents," by David B. Fordyce, Robert E. Wolfrom, and Jean Dupre, Rohm & Haas Co., Philadelphia; and "CMC — An Antiredeposition Agent for Heavy Duty Liquid Detergent Systems," by Jack B. Batdorf, Hercules Powder Co., Wilmington, Del.

The Disinfectants and Sanitizers Division will meet jointly with the Aerosol Division on Tuesday afternoon, Dec. 5, and will hold a separate session Wednesday afternoon, Dec. 6, at which the following papers among others will be presented: "Treatment of Hatching Eggs for the Prevention of Disease," by Tevis M. Goldhaft, D.V.M., Vineland Poultry Laboratories, Vineland, N. J., and "Biological Activity and Applications of Organo-Tins," by Robert J. Zedlar and Charles B. Beiter, Metal and Thermit Corp., New York.

The Pesticide—formerly Insecticide — Division will have one separate session, Tuesday morning, Dec. 5. The divisional name change was approved by the CSMA board of governors at its meeting last month. Lawrence B. Hall of the U. S. Department of Agriculture will present a "Review of World-Wide Malaria Control to Date." The remainder of the session will be devoted to a symposium on "Face Fly Control" at which Joseph Moore of McLaughlin Gormley King Co. (Minneapolis) will be moderator. Participating in the symposum will be among others J. G. Methessa of Cornell University and E. J. Harrison of Rutgers University. Formal presentations will be followed by a question and answer period.

Two sessions, Tuesday morning and Wednesday afternoon, will be held by the Waxes and Floor Finishes Division. Tentatively scheduled to present papers are: P. T. Marlin of Spencer Chemical Co., Kansas City, Mo.; B. H. Clary of Bareco Wax Co., Tulsa, Okla.; George Isenman of Beacon Co., Cambridge, Mass.; Richard Zdanowski of Rohm & Haas Co., Philadelphia; and G. R. DeNapoli of Masury-Young Co., Boston. Subjects have yet to be announced.

Lawrence Coleman, general counsel of Allied Chemical Corp., New York, will speak at luncheon, Dec. 5. Scheduled to present a talk at luncheon, Dec. 6, is W. H. Bryan, vice-president of Humble Oil and Refining Co., New York. One of the convention's major events will be presentation of awards to the winners in the aerosol packaging contest sponsored by the Aerosol Division of CSMA.

Company "Open House" will be Tuesday evening, Dec. 5. Events will be concluded by the annual banquet, scheduled for Wednesday, Dec. 6.

—★—

Johnson Appoints Attorney

Harold F. Grieveldinger has been appointed general attorney and assistant secretary of S. C. Johnson & Sons, Inc., Racine, Wis., it was announced recently. He had served as assistant treasurer since 1958.

Hearing on Flammable Propellants

New York City Fire Department Holds hearing, Sept. 14, on regulations banning flammable aerosol propellants

A RECOMMENDATION that the New York City Fire Department adopt test methods of the Interstate Commerce Commission and the Department of Health, Education, and Welfare to determine the hazard presented by an aerosol product was made during a hearing of the fire department, Sept. 14. The hearing, requested by the Chemical Specialties Manufacturers Association, followed an earlier amendment to the New York City Fire Department regulations which banned the sale of certain types of aerosol products containing "flammable gas." Aerosol products prohibited from containing flammable propellants include hair sprays, paints, shellac, varnishes, enamels and lacquers.

The hearing was attended by 29 representatives of firms producing aerosol propellants, contract aerosol loaders, aerosol marketers, the Chemical Specialties Manufacturers Assn., the National Paint, Varnish and Lacquer Assn., the National Retail Merchants Assn., and *Soap and Chemical Specialties* magazine.

Deputy Assistant Chief Thomas Hartnett. in charge of the Division of Fire Prevention of the New York City Fire Department, presided at the hearing. Also present were Acting Deputy Chief Stephen P. Murphy, who is in charge of the Division of Fire Prevention for Brooklyn and Queens, Deputy Chief Inspector Leo Lieberman, and Deputy Inspector Joseph Mrowka of Brooklyn. A representative of the City's Central Testing Laboratory was also present.

Speaking as legal counsel for C.S.M.A., Peter Brown, former corporation counsel of the City of New York, introduced Charles E. Beach, vice-president and general manager of John C. Stalfort & Sons, Baltimore, who read a statement as president of the Chemical Specialties Manufacturers Assn. In his statement, Mr. Beach pointed out that "it is our position that the hazard presented by an aerosol product cannot be measured solely on the basis of the use of a particular propellant whether the propellant be a single substance or a mixture."

Mr. Beach emphasized that CSMA does not "indicate a preference for any of the various ingredients" for any aerosol product nor "does it suggest that its members prefer the so-called flammable gases as opposed to other types of propellants . . . " What CSMA does object to, Mr. Beach stated, is "what its members feel to be unreasonable regulation of the industry . . ."

"We do not understand the reason behind the prohibition of flammable gases as propellants in aerosols. On the basis of information available to the industry we believe that this regulation in its present form is not justified and should be modified in accordance with applicable test methods. We do recommend that aerosol products and all consumer products sold in New York City and elsewhere be labeled and regulated in a manner commensurate with the hazard presented by the product as packaged and sold for shipment, storage and use."

In arguing against the position that aerosols be banned on the basis of the use of a particular propellant, whether a single substance or a mixture, Mr. Beach stated that the "total composition of the formula of the product be considered and tested to determine the hazard presented."

"Evidence that an aerosol product containing a flammable propellant may present substantially less of a hazard in certain mixtures than other types of propellants" will be presented by CSMA, Mr. Beach said.

He also reported that the scientific committee of the Aerosol Division of CSMA has worked "diligently" for a number of years on test methods to determine the hazard of aerosols in handling, storage and use. Such work continues and these methods or tests are not considered as "frozen" or the "complete answer" to any measurement of hazards, including flammability, Mr. Beach stated. Methods developed by CSMA have "apparently created satisfactory experience with respect to the hazards in aerosol products and have withstood the test of experience by both Federal and state regulatory agencies," according to Mr. Beach.

Next to speak was Montfort A. Johnsen, director of research for Peterson Filling and Packaging Co., Danville, Ill. According to Mr. Johnsen, aerosol producers use a number of propellant gases to achieve "flexibility." "Condensable

(*Turn to Page* 113)

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propellants" (fluorocarbons) are employed in aerosols to expel a product in the form of a spray or foam. In addition to listing six flammable type propellants used in aerosols, Mr. Johnsen showed charts and explained the principles involved in various types of formulations. He also explained four methods for determining flammability of aerosol formulations. All of these tests "judge the flammability hazard on the basis of the whole product, and not on the basis of the separate ingredients," Mr. Johnsen stated. He also pointed out that insurance records and a statement of the good safety record of the industry . . . show how effective these tests have been in preventing problems in transportation, storage and consumer use of hydrocarbon aerosol products."

"All these tests have one thing in common," Mr. Johnsen explained. "They judge the flammability hazard" of the whole product, not the separate ingredients. "The flash point method provides a slight exception . . . and presents difficulties and inconsistencies which do not accurately reflect the hazard of an aerosol product."

Mr. Johnsen outlined premarketing tests for aerosol products containing flammable gases, including the spraying of an oven cleaner containing 5 per cent iso-butane into an oven in which the pilot light was on, in an oven containing a lighted candle and onto the tops of stoves with pilot lights on. The rigid testing and inspecting of products being marketed were described by Mr. Johnsen, who also showed illustrations of gassers with hydrocarbon exhaust funnels; hot tanks, without protective screens, to show can entry, and with protective screens in place.

Also considered by Mr. Johnsen were practical aspects of aerosol flammability as they apply to possible hazards within the home, during storage, in warehouses and during shipment in congested areas.

Standard flammability tests, developed by CSMA at the request of the Bureau of Explosives of the Association of American Railroads, to safeguard commercial shipment, apply not only to shipment of aerosols but to their use as well, Mr. Johnsen explained. These tests were recently "ratified" by the Federal Government, several states, and by the Consumer Hazards Committee of CSMA, Mr. Johnsen pointed out.

He then cited the hypothetical case of a household in which several large hydrocarbon-type aerosols are stored in an air-tight cabinet under a kitchen sink. Should they all start leaking rapidly and the housewife opens the cabinet, match in hand, to select one of the aerosols, the result would be a momentary flare-up, similar to that occuring when a gas-filled oven is ignited. This situation will not happen "once in a millenium," according to Mr. Johnsen. "To say that hydrocarbon aerosols are dangerous from causes such as this is the same as to claim that common table salt is dangerous because it can be made to evolve chlorine gas under electrolysis," Mr. Johnsen asserted.

As for the dangers of hydrocarbon aerosols in household storage, Mr. Johnsen stated that in the case of a large size can of pressurized starch, which requires about one-half ounce of iso-butane as the propellant, "an air tight closure of less than nine cubic feet would be needed to reach the lower explosive limit, providing all the hydrocarbon escaped rapidly." "About six cans of shaving cream would be needed to get the same results," he said.

As for the hazard arising from the storage of hydrocarbon type aerosols in warehouse storage, Mr. Johnsen told of an experiment by Colgate-Palmolive Co. in which a "hydrocarbon sensitive 'sniffer' was placed in the interior cases of a pallet load of hydrocarbon shave cream." By connecting the "sniffer" to a machine it was possible to determine the concentration of hydrocarbon gases inside these interior cases. In "no instance was more than 1/500th of the lower explosive limit of hydrocarbon detected." Mr. Johnsen said that "this convinced Colgate that absolutely no hazard existed from container leakage."

Although it is possible for aerosol cans in warehouses to develop leaks during storage "because of faulty gaskets or similar reasons," given "realistic . . . conditions, and assuming minimum amounts of air movement in the warehouse, it is possible to show mathematically that the chance of an explosion is still exceedingly remote," Mr. Johnsen declared.

The danger to firemen might be caused, "not by any failure of the aerosols, but by a warehouse fire" where aerosols are stored. "Obviously no pressure-resistant container is considered safe when a fire is in the building, regardless of its contents. But, . . . within the framework of *relative* safety, the hydrocarbon types come out pretty well.

"In a warehouse fire *any* aerosol heated to about 160°F. or higher will burst, regardless of the nature of its contents. Cans of non-aerosol products will also burst under similar conditions. The flashpoint of the contents will have absolutely no effect on the fire hazard since all burnable contents will be consumed, regardless of flashpoint, but the B.T.U. quantity of the contents will have an effect on the intensity of the fire.

"Most hydrocarbon type aerosols contain 90 to 95 per cent water. These cans would heat up more slowly in a fire. When they burst the water would exert at least some benefit. The hydrocarbon would burn rapidly and be gone. Thus, the hydrocarbon type aerosols would be less dangerous than most, in a fire of this sort. Their B.T.U. content would be negligible."

As for the hazard of hydrocarbon aerosols in shipment, Mr. Johnsen pointed out that hydrocarbon aerosols in a truck would have to "leak at the rate of many pounds per minute to even begin to approach serious levels of gas concentration. There is a fast turnover of air even in closed trucks and this would be sufficient to carry out any fumes. Here, again, we have the extremely improbable case of cans being produced un-

(*Turn to Page* 169)

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ALCOHOLS	Boiling Range IBP °F.	IBP °C.	Dry °F.	Dry °C.	Flash Point F. (Closed Cup)	Speed Evap. Min.	Solubility Weight % in H_2O	Solubility Weight % of H_2O	Spec. Grav. @60 F.	Wt. per Gal. Average @60 F.
Methanol 99.9%	147	64	149	65	40	1.6	inf.	inf.	.794	6.61
Ethanol 190 Proof	167	75	176	80	48	2.4	inf.	inf.	.818	6.81
Ethanol Anhydrous	167	75	176	80	45	2.3	inf.	inf.	.801	6.67
Isopropyl 91%	175	79	181	83	62	3.6	inf.	inf.	.818	6.81
Isopropyl Anhydrous	179	82	181	83	59	2.6	inf.	inf.	.790	6.58
n-Propyl Alcohol	205	96	208	98	90†	5.3	inf.	inf.	.808	6.73
Sec. Butyl Alcohol	206	97	217	103	74	5.1	24.4	56.0	.808**	6.73*
n-Butyl Alcohol	241	116	246	119	95	11.6	7.7	20.1	.811*	6.75*
Amyl Alcohol	246	119	284	140	90	19.0	2.8	6.9	.817*	6.8*
Fusel Oil (refined)	230	110	293	145	106	19.3	2.5	10.0	.812*	6.76*
Cyclohexanol	320	160	324	162	154†	73	.13	11.0	.950*	7.91*

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Second C. M. C. S. Golf Tournament

JOHN Thompson, manager of the Toronto, Ont., branch of Dodge & Olcott, Inc., New York, with a low gross score of 74, won the second annual golf tournament of the Canadian Manufacturers of Chemical Specialties Association. The tournament was held Sept. 12 at Aurora Highlands Golf Club, Aurora, Ont. Mr. Thompson won the C.M.C.S. trophy.

Over 70 people were present for the dinner and over 35 golf prizes were given out.

Second low gross was won by Press Car with a score of 75, and third low gross went to Joseph McCullough of Precision Valve Corp. who shot an 83.

First low net went to Gordon Lang of Connecticut Chemicals, Ltd., with a 72. Mr. Lang also won the Precision Valve Corp. trophy. Bruce Sleeman of Du Pont took second low net with a score of 72, and third low net was won by Ken Staples with a 73. Fourth low net went to Joseph J. Gregory of Newman-Green, Inc., with a 73, while one stroke back was Jack Furnish of Javex, Ltd., with a 74, for fifth low net.

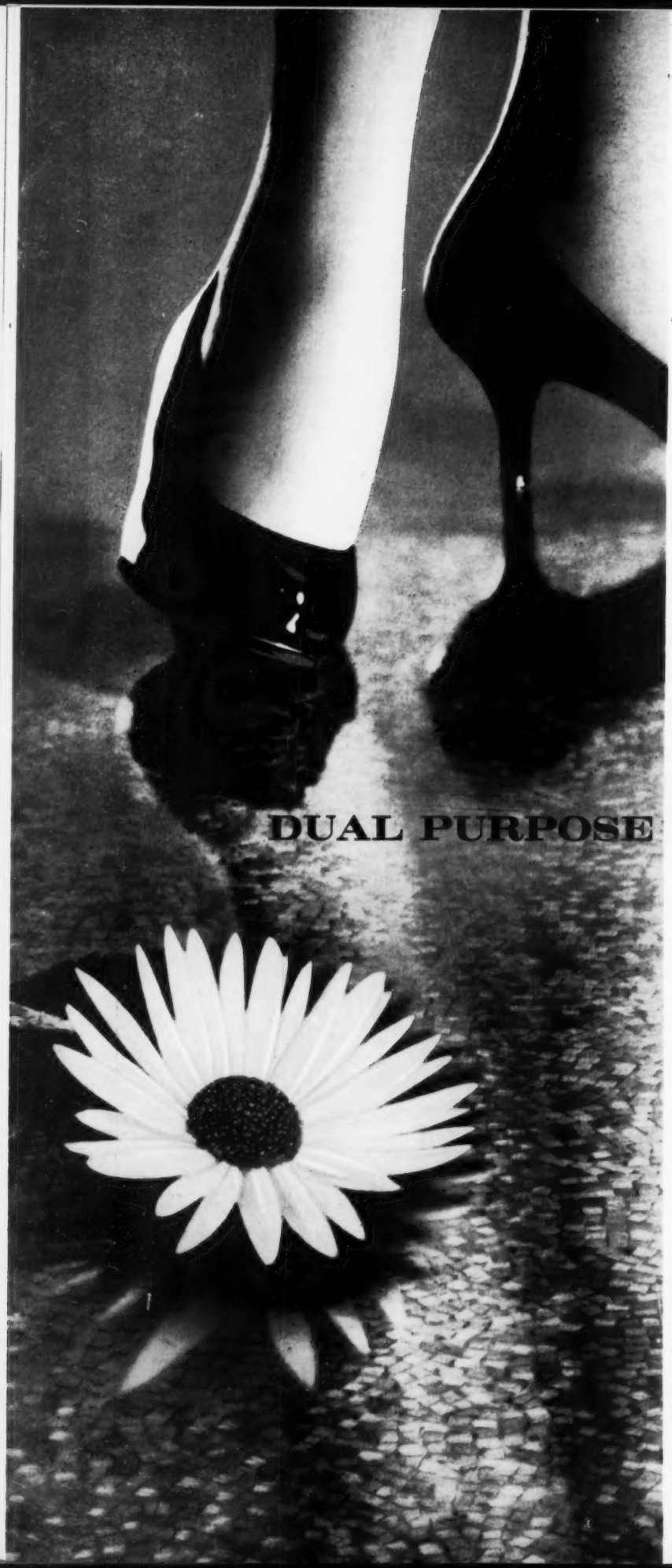
Les Waterfield of Boyle-Midway was judged the "most honest" golfer. Other prize winners included Gordon Gilroy of Precision Valve; Don Ross of Aerosol Packaging of Canada, Ltd.; At Breeze of Givaudan - Delawanna, Ltd.; George Flemming of Guardian Chemicals & Equipment Co.; Dr. George V. Jensen, S. C. Johnson and Son, Ltd., and Ian Vassio of Du Pont Co., Ltd.

Ralph R. Legate, director of sales of Aerocide Dispensers, Ltd., Rexdale, Ont., was chairman of the tournament and presided at the dinner. He read a telegram from G. H. Wood, president of G. H. Wood Co., Ltd., Toronto, a past president of C.M.C.S. who was in Europe at the time of the tournament. Charles S. Beach, president of the Chemical Specialties Manufacturers Assn., also wired, wishing C.M.C.S. good luck during its tournament.

Among those attending the second annual Canadian Manufacturers of Chemical Specialties Assn., golf outing, Sept. 12, at Aurora Highlands Golf Club, Aurora, Ont.; left to right, first row; Skip Pulham, S. C. Johnson, Ltd.; Ted Hart, Aerocide Dispensers, Ltd.; Ivor Guest, Shulton of Canada, Ltd. and Les Waterfield, Boyle-Midway Co., Ltd. Ted Johnstone, Connecticut Chemicals of Canada, Ltd.; Kel Doyle, Crown Cork & Seal, Ltd., and Gerry Durant, Aerocide Dispensers, Ltd. Ty Lowe, American Can Co. of Canada, Ltd.; Ross Peterson, A. S. Peterson, Ltd., Gordon Gilroy, Precision Valve Corp., and W. Collier, American Can Co. of Canada, Ltd.

Second row: Don Lee, Du Pont of Canada; John Thompson, Dodge & Olcott, Ltd., winner of CMCS trophy; Frank Oster, Javex, Ltd., and Bruce Sleeman, Du Pont of Canada. Don Ross, Aerosol Packaging of Canada, Ltd.; Joseph Gregory, Newman-Green, Inc.; Joseph Butters, Union Carbide, Ltd. and Lionel Tipple, Union Carbide Co., Ltd. Carl Durant, Aerocide Dispensers, Ltd.; Ray Wagner, G. H. Wood Co., Ltd., Harry Smith, and H. Morrow, Canada Rex Spray, Ltd.

Third row: Joseph McCullough, Precision Valve Corp.; At Breeze, Givaudan, Ltd.; John Housley, and Russell Tolchard, Consolidated Alcohols, Ltd. Ralph R. Legate, Aerocide Dispensers, Ltd., chairman of the golf committee; Don Ross, Aerosol Packaging of Canada, Ltd.; Carl Durant, Aerocide Dispensers, Ltd., and Gordon Lang, Connecticut Chemicals of Canada, Ltd. Fred Crowhurst, International Flavors & Fragrances; Ralph Dorland, Aeorsol Age and Carl Lougheed, Colgate-Palmolive, Ltd.



Proper leveling with KP-140 gives this vinyl floor evenness of gloss. Photo courtesy of Armstrong Cork Company, Lancaster, Pennsylvania.

ARMSTRONG CORK COMPANY uses KP-140 in *five* different floor-care products including new "Heavy Duty Commercial Floor Wax" and new, polymeric "Heavy Duty Commercial Floor Finish." KP-140 makes possible a continuous, smooth film that is extremely rugged.

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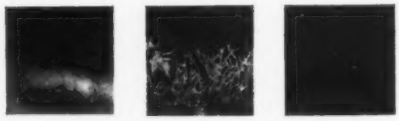

Two test strips on black rubber tile show "drawing in" and crazing in floor polish films which do not contain KP-140. Tile on right shows same formulation with KP-140 added.

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New Secondary Amines

A series of five new secondary amines has just become available in development quantities from Universal Oil Products Co., Des Plaines, Ill. Trade-named "Alkams" the new materials are: N-(1-methylheptyl)-ethanolamine, N,N'-bis (1-methylheptyl)-ethylenediamine, N-sec.-butylamine, bis (1-ethyl-3-methylpentyl) amine, and N, N'-bis (1-ethyl-3-methylpentyl) diethylene triamine.

Fatty acid soaps, antibacterials, fungicides, surface active agents, amides and esters are among the products for which these materials may serve as intermediates, according to M. R. Schrein, senior vice-president, who announced the new development.

Other potential applications include cationic surface active agents, emulsifiers, solubilizing agents, etc.

—★—

Four New "Epolenes"

Four new types of "Epolene" low molecular weight polyolefin resins have been added by Eastman Chemical Products, Inc., Kingsport, Tenn., it was announced recently. One of these, "E-14," is suggested for use in floor polish formulations where a high degree of slip resistance is desired. "E-14" is an emulsifiable "Epolene" with a low softening point. It may be emulsified by either the water-to-wax or wax-to-water method.

Detergent-Sanitizers

(*From Page* 48)

then incubated for one month at 37°C and observed regularly for evidence of growth. Any increase in the size of the fragments of the pellicle transferred was taken as evidence of viability, and after 30 days the fragments were evaluated so far as growth or absence of growth was concerned. Results are given in Table III.

The data indicate that a one per cent SBT-12 solution destroys *Mycobacterium tuberculosis var. hominis* under the conditions of the modified Phenol Coefficient Test (16). The endpoint is defined as the dilution at which kill occurs in 10 minutes but not in five.

Antimicrobial Data on SBT-12 Aerosol Spray: The problem of maintaining an atmosphere in the operating room as nearly sterile as possible requires control of many facets. One of the most difficult areas is the shoes of the personnel. Since special boots have many drawbacks which include expense and lack of complete control of shoe contamination, SBT-12 aerosol spray was used to deliver a germicidal film to the soles of shoes. Effectiveness of the spray was tested on contaminated shoes by the following methods, employing two approaches:

GROUP I: The soles of both shoes of a pair were contaminated by streaking them with a swab soaked in the broth of an 18-hour culture of the following organisms:

Staphylococcus aureus (Giorgio strain)
Staphylococcus aureus (80/81 strain)
Proteus vulgaris
Pseudomonas pyocyaneus
Escherichia Coli
Aerobacter aerogenes
Beta-hemolytic streptococcus
Enterococci

One shoe was then sprayed with the aerosol for 10 seconds at a distance of 18 inches. The shoes were cultured in two ways. One was by swabbing the soles with a moist applicator and then streaking this on an agar plate. The other method involved placing the shoe soles down into a large agar dish. This dual evaluation was performed at the following times after contamination: 10 minutes, one hour, four hours, six hours, and 24 hours.

Table III. Tuberculocidal Activity of SBT-12

SBT-12 Dilution	Antiseptic Activity* 5 Min.	10 Min.	15 Min.
1:50	—	—	—
1:75	—	—	—
1:100	+	—	—
1:125	+	+	—
1:150	+	+	+
1:200	+	+	+

* + = Growth.
— = No growth.

GROUP II: This series of tests was done to determine the residual action of the germicide. The germicide was applied as in Group I to one shoe. After this, the soles of both shoes were contaminated with the same organisms as in Group I at the following times after spraying: 10 minutes, one hour, four hours, six hours, and 24 hours. The organsims were left in contact with the shoe for five minutes and then the soles of the shoes were cultured as mentioned previously. The bacterial colonies were enumerated after 24 hours incubation at 37°C.

Experimental Results

GROUP I: There was no growth of any of the contaminating organisms up to 24 hours after spraying with SBT-12. There was growth of all species in the control.

GROUP II: There were no viable organisms isolated from the soles of the shoes at 10 minutes and one hour after they were sprayed with SBT-12. There was growth of the control at all time periods. As the time from spraying with germicide to contamination was extended the number of viable organisms which were recoverable increased. However, this approached only 1/3 the number of colonies of the control in the agar dish after removal of the shoes. (See Figure 6)

SBT-12 aerosol spray, has been used for two years at the New York Hospital-Cornell Medical Center. There have been no demonstrable evidences or subjective complaints by the staff suggestive of sensitivity or toxicity.

Growth Inhibition on Treated Surfaces: Squares (0.5") of asphalt tile and "Sanitas" wall paper were sprayed* from a distance of one foot with SBT-12 hospital antiseptic spray. By pipette, 0.1 ml of a 1:1000 dilution of a

*Spray was of one to two seconds duration for all activity studies described in this report.

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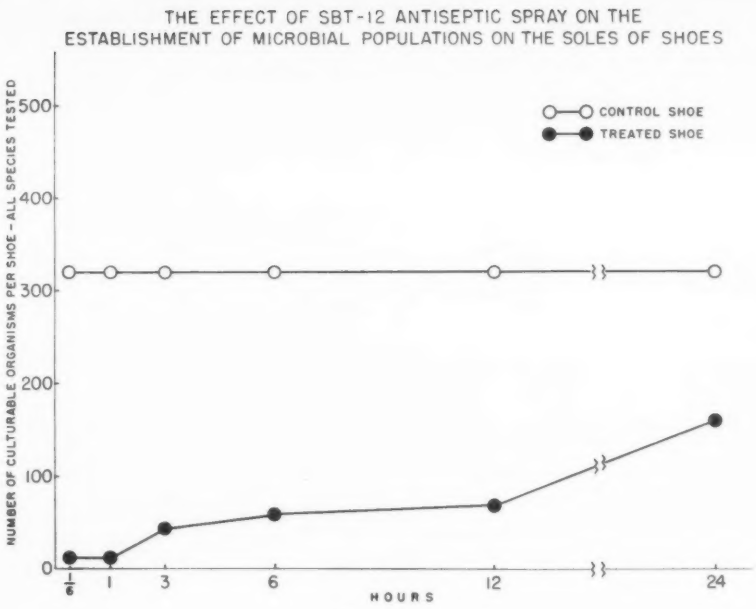

Figure 6

24-hour broth culture of *S. aureus* (approx. 25,000 cells) was spread over the surface. The samples were placed on sterile nutrient agar in Petri plates and incubated overnight at 37°C. The incubated squares were agitated in 100 ml sterile peptone water and pour plates prepared. Less than 100 colonies per square developed. The control samples (untreated) yielded very high counts (>10 million).

Activity Confirmation

(a) *"AOAC Use Dilution Test":* Antibacterial potency of disinfectants was determined under the conditions of the AOAC Use Dilution Confirmation Test (17). In testing the SBT-12 Hospital Antiseptic Spray the following modification in the procedure was employed. Instead of steeping the standard steel cylinders contaminated with the test organism into a solution of the germicidal preparation, the cylinders were sprayed briefly with SBT-12. The treated units were allowed to stand for 10 minutes before transferring into sterile broth for overnight incubation. If the broth tubes did not develop turbidity, they were subcultured into a second series of sterile broth tubes. After incubation overnight, absence of turbidity indicated bactericidal action. Employing this AOAC Test, SBT-12 Hospital Antiseptic Spray was found to be bactericidal when tested against the following organisms:

Salmonella choleraesuis (ATCC 10708)
Staphylococci aureus — (6 strains) FDA 209, Kent, Giorgio, Wolbeck, Cincinnati, 80/81
Escherichia coli

(b) *Spray Disinfection of Contaminated Glass Slides:** The disinfectant activity of the SBT-12 Aerosol Spray was evaluated on glass slides seeded with *S. choleraesuis* and *S. aureus*. For each organism a one square inch area was marked off in the center of microscopic slides using a diamond or Carborundum cutting tool. The slides were placed in individual Petri dishes and sterilized in a hot air oven. 48-hour test cultures as specified in the AOAC Use Dilution Test were used. 0.01 ml of the test culture was spread evenly over each square inch of surface of the slides, 10 slides per culture. The Petri dishes were covered and placed in an incubator at 37°C for 30-40 minutes to dry. After the drying period each slide was sprayed for one to two seconds from a distance of one foot. After 10 minutes, the sprayed slide was transferred aseptically to an individual tube (O.D. 32 mm, length 200 mm) containing 50 ml of nutrient broth medium. After shaking throughly, each slide was transferred within 30 minutes to a fresh tube of the same medium. All primary and secondary subculture tubes were incubated for 48 hours at 37°C. The treatment is considered germicidal if no growth is observed for the test organism in 10 out of 10 tubes.

Control tubes of unsprayed dried smears of each organism always gave growth. The use of SBT-12 Aerosol Spray under these conditions results in complete destruction of *S. choleraesuis* and *S. aureus*.

Broth - Blood Serum Test (Bactericidal Test): Samples of cotton fabric such as surgical lap pads were sprayed briefly with SBT-12 Hospital Antiseptic Spray, allowed to dry and evaluated for bactericidal action in the Broth Blood Serum Test described in the foregoing.

Under these conditions SBT-12 Hospital Antiseptic Spray is bactericidal against the following bacteria:

Staphylococcus aureus — 6 strains
Proteus vulgaris ATCC 9920
Pseudemonas aeruginosa ATCC 10145
Corynebacterium bovis ATCC 7715
Escherichia coli ATCC 10536
Salmonella choleraesuis ATCC 10708

Antifungal Data on Treated Cotton: Desized broadcloth swatches (1" x 3") were sprayed with SBT-12 Hospital Antiseptic Spray and placed on a mildew test medium. The test culture employed was *Chaetomium globosum*. The untreated control samples be-

*Suggested by L. F. Ortenzio of USDA.

HIS Shoe polish with lasting lustre . . . polish for his car. Products that are stable in the can, sparkling on the finish—because they contain ethanolamine dispersing agents. And gentle ethanolamide emulsifiers, derived from ethanolamines, assure that his shaving cream lathers just right, wilts whiskers — yet leaves his face silken-soft. Ethanolamides, too, add the lathering qualities he likes in cream shampoos.

HERS Cosmetics that are smooth, stable safe — thanks to the dispersing action of non-irritating ethanolamides. They're ideal for liquid shampoos with perfect lather bubble size, opacity, body and hair conditioning effect. As suds boosters, they add muscle to her household detergents and soaps. And ethanolamine emulsifiers keep floor and furniture polishes smoothly blended.

YOURS Allied Chemical's high-quality ethanolamines for your products for HIM and HER . . . and INDUSTRY — in institutional cleaners, textile softening agents, wool scouring compounds, cotton washing formulations. Allied Chemical's mono-, di-, and triethanolamines are manufactured by an improved process assuring high quality and purity. Write or phone for specifications or technical assistance in formulating your ethanolamides.

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came heavily overgrown with *Chaetomium globosum* within one week. No growth of *Chaetomium globosum* was observed over the two week period on desized broadcloth swatches treated with SBT-12.

(*To be concluded*)

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★

Hazleton Names Treasurer

Richard G. Henninger was recently elected treasurer of Hazleton Laboratories, Inc., Falls Church, Va., succeeding Francis E. Miller, who resigned. A director of Hazleton since 1955, Mr. Henninger also holds the position of assistant to the president.

Face Fly

(*From Page* 85)

have never given us the high degree of face fly control obtained through the proper use of effective syrup baits, in those cases where it is impractical or impossible to handle the animals and make the necessary facial applications of bait at frequent intervals, we regard the use of back rubbers as our only practical alternative. Five per cent solutions of DDT, toxaphene or methoxychlor in mineral oil seem to give about equally good results and under highly favorable conditions of use will maintain 75 to 80 per cent control of the face fly. The proper design, installation and acceptance of the back rubber unit seems to be more critical than the choice of a toxicant. Illinois farmers seem to favor simple, homemade units (Figure 4) consisting of three of five-layers of burlap wrapped around a chain or even three strands of barbed wire to which the burlap is tightly bound by two additional strands of a plain or barbed wire. Some prefer a swing type where the ends of a 15 foot long simulated rope are firmly attached to the top of two strong, firmly placed posts set 12 feet apart so that the middle of the span drops to about 12-15 inches above the ground. Others prefer a triangle design where one end of the cable is attached to the top of a firmly placed post and the other end attached to an object firmly imbedded in the ground some eight or 10 feet away. Still others use more elaborate models that are available commercially. Normally it takes about a gallon of oil to saturate the cable the first time and about one quart to replenish it every week or two, depending upon the weather and the number of cattle using the unit. Back rubbers are most successful where they do not have to compete with a lot of brush, trees or other preferred rubbing sites. Also, to be most effective they should be placed at a point where the animals normally pass and therefore use them frequently. Most animals will not go far out of their way merely to visit a back rubber.

It is most important that those who use DDT or other similar materials in such devices be aware that animals should not be marketed or slaughtered within 30 days of their last use of the "rubber." Even this interval might not be adequate to meet the 7 p.p.m. tolerance for DDT in fat in the case of an animal that developed a particular fondness for a rubbing device. Two such steers once attracted our attention, and after they had been using the device about four months, fat samples taken by biopsy for analysis contained 34 and 40 p.p.m. of DDT respectively. Under ordinary conditions it would take 12 to 20 weeks on a DDT-free diet to bring such concentrations down below the 7 p.p.m. legal limit.

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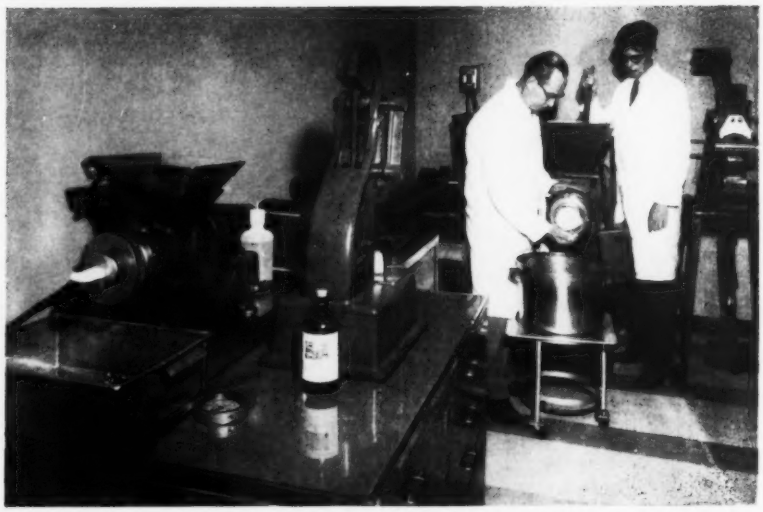
Soap Perfuming

(*From Page* 57)

then current vogue for scented fabrics: mainly handkerchiefs and cotton prints. He also sent me a small clipping of a perfumed cotton print of Chinese manufacture, adding: "This is a material sold in local shops. At the time of arrival the odor may have gone, but it is believed here that, in the piece, the perfume persists for a long time, even after washing. Perfumed cotton and woolen materials are exported in quantities to certain markets, especially Hong Kong, Singapore and Indonesia."

During the past decade much interest in this business of perfuming fabrics has also been shown in Japan. Last year my friend Koichi Tanaka of Osaka kindly sent me a copy of his paper on "The Perfuming of Textiles," as published in a recent textbook issued by the Japanese Dyeing Industry Institute.



Soap plant in miniature in research laboratories of Givaudan-Delawanna, Inc., New York, where soaps can be made for testing different types of perfuming materials. Equipment includes plodders and stamping units.

Also in 1960 appeared the specification of a British patent: No. 838,240, in which it is stated that "the purpose of the invention is to provide a detergent composition perfumed with ingredients which are capable of imparting to washed cotton and linen fabrics a residual odor characteristic of the ingredients. This has been achieved by the discovery that certain perfumes are substantive to cotton and linen, and there is provided, therefore, according to the present invention, a detergent composition containing a perfume

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material which is substantive to cotton or linen goods to be washed, the perfume material being present in the detergent composition in amount sufficient so that the washed fabric has a perceptible residual odor."

The five claims made by this patent are as follows:

"1. A detergent composition containing a perfume material which is substantive to cotton and linen, the perfume material being present in the detergent composition in an amount sufficient so that washed cotton or linen goods have a perceptible residual odor.

2. A detergent composition according to Claim 1 which contains at least 0.005% by weight of a perfume substantive to cotton and linen.

3. A detergent composition according to Claims 1 or 2 containing a perfume blend of which at least 15% by weight is perfume material substantive to cotton and linen.

4. A detergent composition according to Claims 1, 2 or 3 containing a perfume blend of which at least 25% by weight is perfume material substantive to cotton and linen.

5. A detergent composition according to any of the previous claims in which the perfume material substantive to cotton and linen is musk ketone, moskene, musk ambrette, exaltolide, versalide, vetevert or a mixture of two or more of these."

These claims are, in my view, remarkable; even extraordinary. In the first place, I should have thought that the idea of producing a perfumed detergent that leaves behind it a perceptible residual odor is quite commonplace. Try smelling a face cloth that has been used for several weeks and, however well it has been rinsed each time after use, you will observe that perfumed soaps have in fact imparted to it a "perceptible residual odor." You will even gain information about the types of odorant that most markedly persist in this fashion. Take gamma-undecalactone, for example. It would thus appear virtually impossible to avoid unintentional in-

fringements of the first claim made in this patent.

Time is too short to permit discussion of what exactly is meant by a perfume being "substantive" to textile fibres. The type of substantivity intended cannot be the same as that which is considered to exist between fibres and dyestuffs. The most obsious common characteristic of the few materials listed in claim 5 is their insolubility in water, a feature that they share with many other odorants (e.g. patchouli and methyl nonyl acetaldehyde) that are known to persist in fabrics when precipitated from an aqueous system. (I am reminded of the fact that Cashmere shawls scented with patchouli leaves have long been known to retain their odor even after frequent washing.)

Perfumes that persist on the skin; perfumes that persist on fabrics. Our greatest good fortune, perhaps, is that perfumes, even the most persistent, are volatile by definition and sufficiently evanescent in the conditions of use.

Acknowledgment

I am extremely grateful to Mr. Paul Johnson, well-known perfumer to the house of Robertet et Cie, Grasse, and formerly a leading perfumer in England, for having kindly assisted me by making on-the-spot suggestions and acting as my interpreter at the Paris meeting.■

Sequestrants

(*From Page* 51)

capable of chelating 50 per cent more metal ions per unit weight than EDTA salts but is, at the same time, considerably less expensive per pound. Emergence of this product in commercial quantities closes for the first time the cost gap between polyphosphates and organic amino acid chelating agents.

Detergent grade NTA salts are less expensive to use in liquid detergent formulations than potassium pyrophosphate and potassium

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tripolyphosphate. The close approach in cost to the sodium salts of the inorganic chelating agents opens the door to greatly improved formulations incorporating optimum combinations without boosting costs and possibly even reducing them.

Summary

Where the formulator sets out to produce the best possible cleaning compound at a given cost the chances are that the ultimate formulation will incorporate members of both groups of chelating agents. The ratio of each component will be determined by performance at the given cost. Performance in a given formulation is invariably the only final assessment of a compound's value. Laboratory tests provide a useful guide. But the absolute necessity of use tests is evident from the wide discrepancies in sequestering and water softening data in the literature and by the absence of specific chemical structure or identity in many polyphosphates.■

Floor Wax

(*From Page* 95)

physical disability may naturally have a much greater role in the accident than the condition of the floor.

(6) Mental attitude of the plaintiff: Likewise the mental attitude or preoccupation of the plaintiff can well be a contributing factor to the lack of care which could result in an accident under the most normal of conditions.

(7) Footwear of the plaintiff: It must always be remembered that the floor covering is only half of the surface involved in a slip. The coefficient of friction involves two surfaces, not one. The composition and state of repair, as well as the presence of foreign matter on the sole of the shoe is of just as vital importance as the same factors in relation to the floor covering. Women's high heels also are a matter to contend with.

V. *Local Influences.*

These are matters of which the attorney is always well aware but which should be communicated to the expert witness. Ethnic, hometown or regional influences as they relate to the plaintiff or defendant are of importance as are the trends of jury awards in recent damage suits.

Aero-Space Cleaners

(*From Page* 55)

occasional make-up of the cleaner itself, otherwise drag-out and other losses would lower the effective cleaning (or solvent) level in the tank. Sludge collecting in the bottom of the tank is removed periodically.

The cold-tank carbon remover is covered by MIL-C-19853 (AER) specification.

Hot-Tank Carbon Removers: These cleaners are of two types, one a cresol based compound, and the other a cresol and high boiling chlorinated solvent system. The former is described in specification MIL-C-5546, a formula specification shown in Table III.

Table III. Engine Cleaning Compound. Cresol Base MIL-C-5546

		% by wt.
(Compound)	Water	8.0 max.
	Soap	30.0 max.
	Cresols	62.0 max.
(Soap)	Fatty Acids	85.0 min.
	Alkali as K_2O	15.0 max.

MIL-C-25107 (USAF) specifies the chlorinated solvent-cresol hot-tank carbon remover. This also is a formula specification, the composition of which is given in Table IV.

In practice, these hot-tank cleaners are heated in open tanks to the operating temperature of

Table IV. Orthodichlorobenzene Carbon Remover MIL-C-25107 (USAF)

Ingredients	% by wt. Max.	Min.
Orthodichloro-benzene	—	53.0
Cresylic acid (100% acid bases)	—	23.0
Cresylic acid (100% acid bases)	—	23.0
Potassium oleate (anhydrous)	12.0	10.0
Water	5.0	— (by vol.)
Inhibitors and other materials	5.0	— (by vol.)

about 150°F. Inhibited water seals prevent loss of solvent by evaporation. Parts to be cleaned are handled in much the same manner as for the cold-tank cleaners. Losses due to evaporation are made up by additions of the cleaning compound, and again, the water seal is maintained by additions, as required.

Turbine Engine Cleaning

Cleaning of turbine type engines presents a problem radically different from the cleaning of conventional reciprocating engines. Hot section parts from jet engines carry an accumulation of carbon, metallic deposits, complex metallic oxides and heat scale. Heroic measures are needed to clean such parts and leave them fit for reuse.

One method for removal of such jet engine deposits calls for a fused caustic potash bath at 750° F. Parts to be cleaned are immersed in the caustic bath for about one-half hour, removed, and rinsed with water, subsequently immersed in a potassium permanganate bath and then in a nitric acid bath. Special techniques to handle parts in such corrosive liquids have been developed, and protection of personnel is an important consideration.

MIL-C-26549 (USAF) covers a liquid descaling compound that can be used in place of the fused caustic bath. Operating temperatures are of the order of only 200°F., and the process is considerably safer to use. In addition this type descaling compound has been found more efficient in removal of

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deposits and is replacing the older fused caustic process. This specification expressly forbids inclusion of chlorides, cresols, phenols, fluorides, sulfides, cyanides, caustic soda, chlorates, perchlorates, chromates, peroxides and nitrates. Stainless steel tanks must be used with the compound since mild steel, formerly used, may be attacked by the descaler.

Missile Cleaning

The missile industry does not use large quantities of cleaners as does the aviation industry. Most missiles are not recoverable, and hence present no cleaning problems. Recoverable air-breathing missiles use the same type surface and engine cleaners as do aircraft. In the assembly of missiles, small quantities of some specialized cleaners are used.

Radioactive Surfaces

The cleaning of radioactive surfaces has not presented a difficult problem as far as detergency and actual surface cleaning is concerned. Cleaners previously described for large surface areas do an excellent job also of removing radioactive soils. Disposal of rinse water and other waste can be a problem, and personnel must be carefully protected against radioactivity. In steam cleaning operations, steam clouds – after contact with a radioactive surface – may form radioactive mists and present a definite health hazard.

Other cleaning methods use ultrasonics and cleaning grit especially for engine parts of all types. Ultrasonics have shown some promise and units have been constructed large enough to hold an entire engine. Ultrasonics alone will not work, and some liquid medium must be used to transfer the high frequency waves. Chemical cleaners may eventually be of value in such a process. They would serve as the liquid transfer media and, at the same time, add to the cleaning effect. Blasting grit has long been used to remove hard carbon deposits from engine parts. Its use is covered in Specification MIL-B-5634.

Conclusions

Present day methods of cleaning aircraft surfaces and engines are generally adequate. As in all chemical processes, room for improvement exists, and undoubtedly more difficult problems will emerge requiring greater efforts. Such cleaning then, does present a challenge to the chemical specialties industry. New cleaners and perhaps methods must be continually developed, to insure most economical and efficient performance. The development of cleaning compounds with a lower order of toxicity is certainly one area where considerable research needs to be done.

Efficient and proper cleaning of aircraft protects the money investment and contributes in a definitive fashion to the safety of passengers using such planes.■

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Hazardous Labeling

(*From Page* 99)

within the meaning of the act.

§ 191.213 Presentation of views under section 7 of the act.

(a) Presentation of views under section 7 of the act shall be private and informal. The views presented shall be confined to matters relevant to the contemplated proceeding. Such views may be presented by letter or in person by the person to whom the notice was given, or by his representative. In case such person holds a guaranty or undertaking referred to in section 5(b)(2) of the act applicable to the article on which such notice was based, such guaranty or undertaking or a verified copy thereof, shall be made a part of such presentation of views.

(b) Upon request, reasonably made, by the person to whom a notice appointing a time and place for the presentation of views under section 7 of the act has been given, or by his representative, such time or place, or both such time and place, may be changed if the request states reasonable grounds therefor. Such request shall be addressed to the office of the Food and Drug Administration that issued the notice.

(c) Any officer or employee of the Food and Drug Administration who is currently authorized to hold hearings under section 305 of the Federal Food, Drug, and Cosmetic Act is hereby authorized to hold hearings under section 7 of the Federal Hazardous Substances Labeling Act.

ADMINISTRATIVE

§ 191.214 Examinations and investigations; samples.

When any officer or employee of the Department collects a sample of a hazardous substance for analysis under the act, the sample shall be designated as an official sample if records or other evidence is obtained by him or any other officer or employee of the Department indicating that the shipment or other lot of the article from which such sample was collected was introduced or delivered for introduction into interstate commerce, or was in or was received in interstate commerce, or was manufactured within a Territory not organized with a legislative body. Only samples so designated by an officer or employee of the Department shall be considered to be official samples.

(a) For the purpose of determining whether or not a sample is collected for analysis, the term "analysis" includes examinations and tests.

(b) The owner of a hazardous substance of which an official sample is collected is the person who owns the shipment or other lot of the article from which the sample is collected.

§ 191.215 Transitional period for relabeling.

The Commissioner recognizes that relabeling will be required to bring products subject to the Federal Hazardous Substances Labeling Act into full compliance. Many such products are marketed in lithographed cans, some of which are pressurized containers. This introduces special problems of relabeling. While most hazardous household substances now carry some warning information, the regulations in this part require that the warnings be amplified, additional information included, and that the warnings and related information be displayed more prominently. In order to meet the February 1, 1962, effective date of the statute, manufacturers and shippers of hazardous substances in containers intended or suitable for household use may develop stick-on labels or other means to provide the required information.

(Sec. 16, 74 Stat. 380; 15 U.S.C. 1261 (note))

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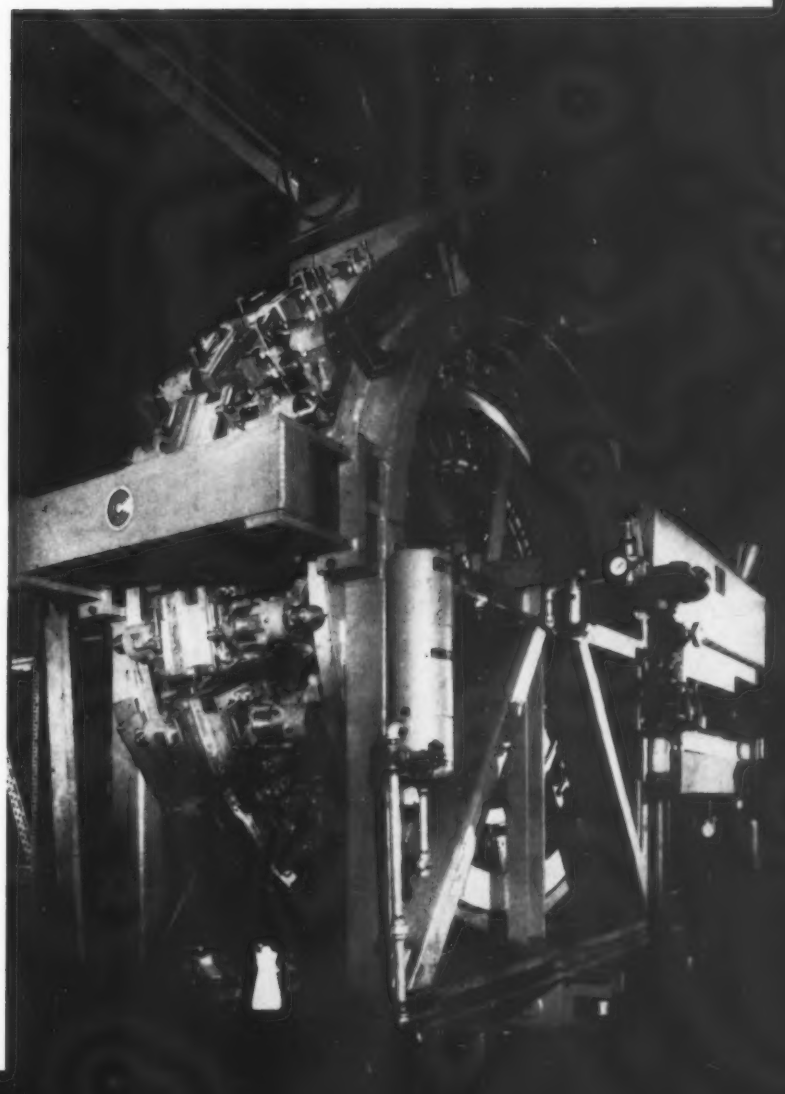

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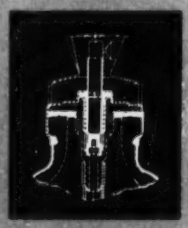
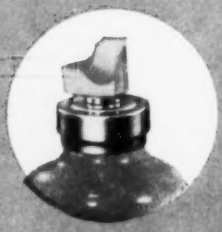
Valves

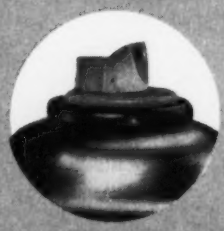
The Risdon MAGNA-METER Valve
A large capacity metering valve for dispensing pre-measured amounts from fractional to multiple cc quantities in spray, liquid or foam form.



The Risdon METERED SPRAY Valve
Delivers a pre-measured spray of duration determined by packager. Actuator must be released and pressed again for subsequent measured spray.

The Risdon GB Valve
A non-metallic valve for glass, plastic and small metal containers. No spring. No metal in contact with contents. No danger of corrosion or contamination.





The Risdon 5210 Valve
For metal containers. One basic valve — five models with special actuator to suit specific function. Suitable for both refrigeration and pressure filling.

The Risdon MICRO-MIST Valve
Any Risdon valve becomes a "Micro-Mist" valve when fitted with Risdon's patented Micro-Mist mechanical break-up actuator. Enables valve to dispense 3-phase products or give super-spray performance on 2-phase and ultra-low pressure products. Increases formulation latitude and economy.

- Dispense an extensive variety of formulations including propellant emulsions or dispersions • certain types of powders • water-base products • 2-phase, 3-phase & ultra-low pressure products.
- Dispense products in spray, liquid or foam form.
- Applied to glass, plastic and metal containers.
- Dispense pre-measured dosages or unmeasured amounts.
- Available with special applicator-actuators to suit the product.

Contact Risdon for further information, samples and prices.

Valves shown are covered by Patents or Patents Pend.

RISDON

THE RISDON MANUFACTURING COMPANY
AEROSOL DIVISION
Naugatuck, Conn.

RI-114

Risdon valves can be fitted with special actuator-applicators such as shown.

We could go on like this all day!

Look...

New! first-of-its-kind

ECONOMY SIZE 24-OUNCE PRESSURE CAN

(Large as Life)

AND SHOWN LIFE-SIZE

AT LAST—an easy-to-use pressure can that's *big enough* to finish the job it starts (painting, garden spraying, etc.). Watch consumers go for this one!

BIG AND HANDSOME! This jumbo-size, extra convenient pressure can is available in lustrous, full-color lithography. Your brand will look bigger and more eye-catching than ever!

LOWERS PACKAGING COSTS! You can count on real savings from this can's *lower packaging cost per ounce of product.* You save valuable plant space . . . and cut handling costs, too.

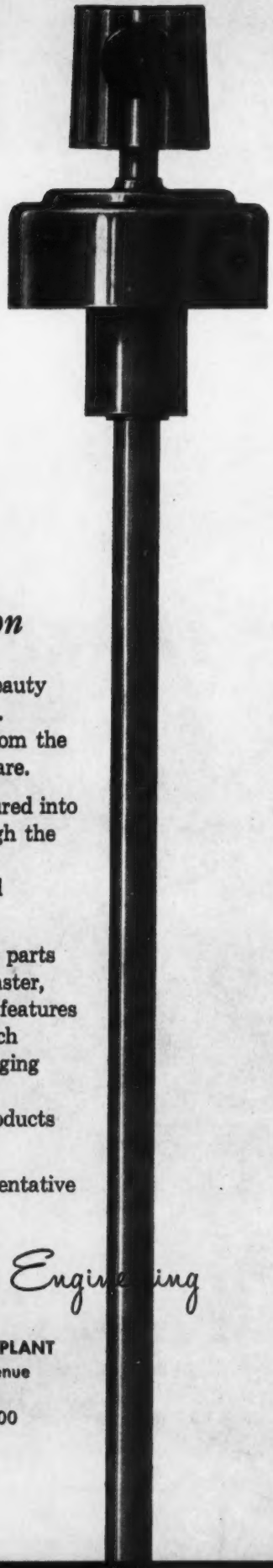
LOWERS SELLING COST! Dealers get the benefit of a higher profit item that takes approximately the same shelf space as conventional size cans. Dealers will want to sell more . . . because they net more!

RAISE YOUR PROFITS with Canco's new, exclusive 24-oz. pressure can. In addition to selling consumers, now you can open up the big, profitable institutional market that is looking for long-use, reduced inventory units. Think of the profit possibilities in institutional use of hair sprays, room deodorants, whipped toppings and other food applications! For more information on the new 24-oz. can, get in touch with your Canco salesman. Call him today!

CANCO *Division*

AMERICAN CAN COMPANY

NEW YORK · CHICAGO · NEW ORLEANS · SAN FRANCISCO



Beauty

in nature is infused
at the time of creation . . .

Quality

is a matter of natural perfection

A perfect stalk of wheat possesses inherent beauty and quality. Man-made products are different. The attributes of beauty and quality result from the application of skill, ingenuity, judgment and care.

At Newman-Green, quality has been manufactured into every aerosol valve carefully, patiently. Through the years, every effort has been made to produce a valve that is as nearly perfect as experienced human capabilities will permit.

Newman-Green embodies the finest component parts obtainable for aerosol valves that pressure fill faster, more uniformly. One of the many outstanding features Newman-Green pioneered is the complete switch of the spray pattern in seconds simply by changing the spray head. This is only one of the many features Newman-Green gives your aerosol products for a competitive edge.

Call in your order to the Newman-Green representative nearest you . . . do it today.

NEWMAN-GREEN, INC. *Creative Aerosol Valve Engineering*

SALES OFFICES:

EASTERN DISTRICT
415 Lexington Avenue
New York 17, New York
MUrray Hill 7-7147

MAIN OFFICE & PLANT
57 Interstate Avenue
Addison, Illinois
Kingswood 3-6500

Continental Can Co's new technical center consolidates at Chicago location (main picture) facilities of central research and engineering; metal research and development; and general packaging research and development. Insert on right shows glass research and development laboratory at Plainfield, Ill., 30 miles from Chicago.

New Continental Can Research Center

A $20,000,000 packaging research center was officially opened last month by Continental Can Co., Chicago. The technical center consolidates in one location the new general packaging research and development laboratories with the previously built metal research and development and the central research and engineering facilities. The newly built glass research and development laboratory, also part of the center, is located in Plainfield, Ill., 30 miles from Chicago, but just across the road from the newest plant of Continental's Hazel-Atlas Glass division.

The four buildings constituting the center house some 800 scientists and technicians in an area covering 553,000 square feet.

In an area of 145,000 square feet, the general packaging research and development laboratory houses a research team of 300 headed by R. B. Mesrobian. The laboratory serves the needs of six divisions: Bondware (paper container); corrugated container; flexible packaging; folding carton and fibre drum; plastic bottle and tube; and White Cap and Bonded Crown (closures).

A unit that can print irregularly shaped containers in four colors at rates of up to 100 bottles a minute is now being pilot tested in this laboratory. A permeation resistant bottle made of a novel polymer mixture, developed here, is said to be suitable for perfumed and other hard to hold products. Styrene containers for personal products are being studied. All plastic closures for household chemical specialties such as laundry bleach and ammonia are now being investigated. Seamless plastic inner linings for fibre drums are in the development stage. They will increase the range of liquid products packable in fibre drums.

The glass research and development laboratory with 70,000 square feet of floor space contains some of the most modern and unique equipment in the field of glass technology. It houses a staff of 75 headed by W. R. Prindle. Tasks of the laboratory include customer research, glass research, and development of new production equipment.

Multi-colored vinyl coatings are being tested for decorative purposes. A new protective coating for glass has been formulated. It will withstand autoclaving and boiling

This unit, developed at Continental's general packaging laboratory does high-speed four color offset printing on both sides of irregularly shaped plastic bottles.

Metal research facilities include fully equipped aerosol testing laboratory and a pilot filling line. First low pressure aerosol container originated at Continental Can.

EDWARD J. BRECK, *President*
John H. Breck, Inc.
Springfield, Massachusetts

B R E C K

LIKES AEROSOLS... LIKES WHAT AEROSOLS DO FOR THE SALES CURVE

John H. Breck, Inc. likes aerosols. You can see why. Breck Hair Set Mist, introduced in 1956, is one of the nation's leading brands and is second only to shampoos in dollar volume for Breck. This success prompted Breck to introduce other aerosol preparations including body cologne, room fresheners and hair conditioners.

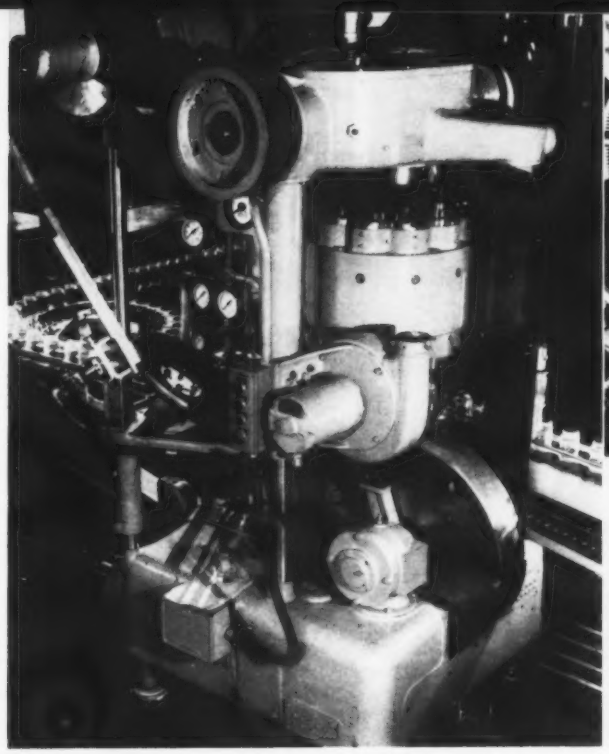
Breck's aerosol filling and packaging operations are handled entirely by contract packagers, who also assist in quality control and technical studies. "By utilizing their services, we get the same speed and quality we demand in our own operation," President Edward J. Breck states, "without any investment in packaging and filling equipment."

Have you investigated the aerosol potential of all your products? *Write Pennsalt.* As producers of ISOTRON® — the aerosol propellents used to power hundreds of successful products—we offer valuable counsel to marketers—can recommend packagers equipped to handle test runs or to take over your entire packaging operation.

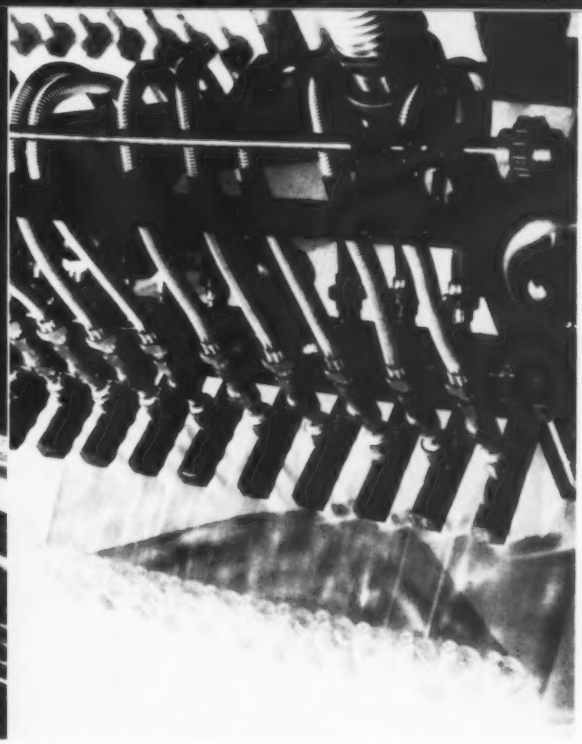
ISOTRON—The Key to Modern Living

ISOTRON Department
PENNSALT CHEMICALS CORPORATION
Three Penn Center, Philadelphia 2, Pa.

Pennsalt Chemicals
ESTABLISHED 1850



New high-speed capper now being tested at Research Center applies vapor-vacuum caps to 1,000 bottles a minute, will be marketed by Continental's White Cap Division.



Prototype flame finisher at Continental's Plainfield glass research laboratory is intended to assure uniformity and smoothness of tops of bottles.

and is designed to protect glass from handling damage.

No-drip organic compounds are being studied. To date, this work was mainly concerned with silicones, but a "Teflon"-like substance has now been discovered which may answer the problem of liquids running down the side of the bottle when poured.

Metal Research

First opened in 1956 the metal research and development department developed the first low-pressure aerosol containers and the techniques and methods for loading insecticides, fire extinguishers, and paints.

More than 260,000 square feet of floor space are devoted to metal research and development activities. Completely equipped physical, bacteriological, and packaging laboratories are included in the facilities. A large pilot plant including an aerosol filling line and a 6,000 volume technical library are at the disposal of the staff of 30.

The department's function includes improving materials, products, and processes; developing new containers and improving old ones; designing new can making, can closing, and auxiliary machinery; testing chemical and physical properties of cans; solving customers' packaging problems; and creating new markets for packaged products. In other words, it is the keystone of the center.

The single largest program at the metal research and develop-

(*Turn to Page* 166)

Composite containers of paper, film and foil are being spiral-wound by this unit. Continental is planning laminated container with plastic liner to hold motor oil.

Corrosivity tester aids in quick prediction of shelf life of filled container. Data help Continental develop can coatings and customer formulate less corrosive products.

Packaged in MARLEX* for increased SALES APPEAL!

Blow molded of MARLEX high density plastic, these attractive and functional containers command increased point-of-sale attention for Downy Fabric Softener . . . give added sales appeal to a new Procter and Gamble product. In addition they are lightweight, rust-proof, unbreakable, leak-proof . . . shaped to provide a firm grip . . . less costly to ship . . . easy to fill and pack.

Today, MARLEX high density polyethylenes and ethylene copolymers are widely used for blow molded containers of all sizes and shapes. When made of MARLEX, containers are noted for great rigidity, more strength per mil of wall thickness, and high stress cracking resistance. They are also non-absorbent . . . resistant to most chemicals, acids, alkalies, oils, greases, bacteria, rot and fungi . . . and capable of withstanding temperatures from −180°F to 250°F.

*MARLEX is a trademark for Phillips family of olefin polymers.

For more information, see your container supplier . . . or contact us.

PHILLIPS CHEMICAL COMPANY
Bartlesville, Oklahoma
A subsidiary of Phillips Petroleum Company

PHILLIPS 66 MARLEX PLASTICS

packaging notes

IMCO Names Albers

IMCO Container Co., a division of Rexall Drug and Chemical Co., Los Angeles, has named

Leonard P. Albers

Leonard F. Albers central division sales manager, it was announced recently. Mr. Albers, formerly associated with Container Corp. of America, Chicago, will make his headquarters in that city. He is responsible for the development and administration of sales in the division which includes ten central states and Canada.

—★—

AviSun Names Hanlon

Joseph T. Hanlon has been appointed manager of advertising for AviSun Corp., Philadelphia, it was announced recently. Prior to joining the firm, Mr. Hanlon was advertising and sales promotion manager for Crown Cork & Seal Co., Philadelphia, with whom he was associated for 23 years.

—★—

PMMI Show Nov. 7-10

The Packaging Machinery Manufacturers Institute Show of 1961 will be held Nov. 7-10, at Cobo Hall, Detroit. An estimated 100,000 square feet of exhibit space will be utilized for the machinery displays, it was reported. Show hours are from 10 A. M. to six P. M., Nov. 7, 8 and 9th, and 10 A.M. to two P.M. Nov. 10th.

In conjunction with the show a Conference-Workshop will be held on Nov. 8-9, from 9:30 A.M. to noon, each day. The theme of the Workshop is "Planned Maintenance: The Profit Tool of Management." Roving moderators, who will move from group to group include: Norman Yaeger, Colgate-Palmolive Co., New York, speaking on "Maintenance Features in Machinery," and John S. Stokes, Stokes & Smith Co., Philadelphia, who will discuss "Adjusting the Material, Not The Machine."

Included in the list of Show exhibitors are:

Chisholm-Ryder Co. of Pa., Hanover, Pa.; Arthur Colton Co., Detroit; Consolidated Packaging Machinery Corp., Buffalo, N. Y.; Flexible Packaging Division of Continental Can Co., Mt. Vernon, O.; Economic Machinery Co., Worcester, Mass.; Emhart Manufacturing Co., Portland Div., Portland, Conn.; Ertel Engineering Corp., Kingston, N. Y.; Stokes & Smith Plant of FMC Corp., Philadelphia; Adolph Gottscho, Inc., Hillside, N. J.; Horix Manufacturing Co., Pittsburgh; Island Equipment Corp., Hialeah, Fla.; R. A. Jones & Co., Covington, Ky.; Karl Kiefer Machine Co., Cincinnati; M.R.M. Co., Brooklyn; U. S. Bottlers Machinery Co., Chicago; and U. S. Industrial Chemicals Co., New York.

—★—

New Packaging Directory

A new directory of packaging machinery manufacturers is now available from the Packaging Machinery Manufacturers Institute, 60 East 42nd St., New York. Cost of the new directory, which supplants the one printed in 1958, is $7.50.

The directory contains the addresses and names of officers, products and trade names, as well as office listings of packaging machinery manufacturers. All buyers of PMMI directories will periodically receive insert sheets to keep them up to date, the Institute reports.

CCC Names Fogarty

Thomas C. Fogarty, president of Continental Can Co., New York, was designated chief execu-

Thomas C. Fogarty

tive officer at a special meeting of the board held Sept. 5. He succeeds General Lucius D. Clay, who has been appointed personal representative to Berlin by the President. General Clay continues as chairman of the board on leave of absence, without compensation, for the duration of his Berlin assignment.

Mr. Fogarty, who joined the firm in 1929, has been president of Continental since 1956. He was elected a vice-president in 1946, and executive vice-president of the metal division in 1950. He has been a member of the board since 1951.

—★—

CMI Safety Record

For the eighth consecutive year, 1954-1961, the Can Manufacturers Institute, New York, has been cited for excellence by the National Safety Council, it was announced recently. A total of 40 can manufacturing companies with operations in 34 states participated in the CMI safety program. It is the only association to win this award eight years in succession.

FROM A

SOURCE

...the most complete line of aerosol propellants available anywhere

FLUOROCARBONS • HYDROCARBONS NITROGEN • SPECIALTY BLENDS

ALL FROM

UNION CARBIDE CHEMICALS

UCON® Power Propellants: Fluorocarbons 11, 12, 22, 113, 114; Propane; Isobutane; Nitrogen; Specialty Blends for specific applications.

COMPREHENSIVE PROPELLANT PROGRAMMING at last becomes a reality with UNION CARBIDE'S introduction of the MOST COMPLETE LINE of power propellants, job-matched for every application.

- **One-Stop-Shopping, for purchasing ease and speed.**
- **Impartial, expert technical advice not influenced by a limited line.**
- **Complete engineering service including information on the storage and handling of all UCON power propellants.**
- **Customer service to help you build sales.**

There's much more that your UCON power propellants representative can tell you about UNION CARBIDE'S comprehensive propellant programming. Call him today. Union Carbide Chemicals Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, New York.

Ucon®

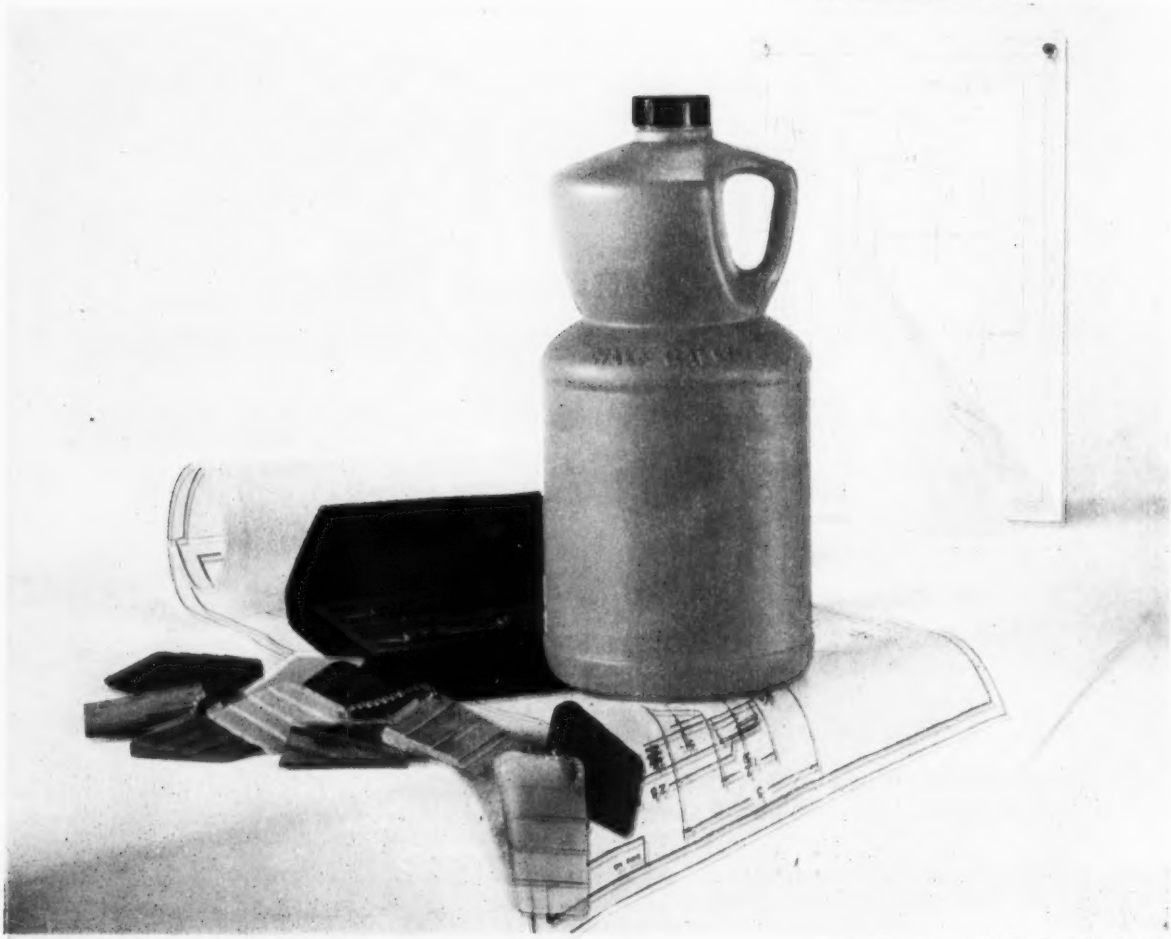
POWER PROPELLANTS

OWENS-ILLINOIS

SKILL IN PLASTICS

TAKES MANY SHAPES

TO SERVE YOU



A new O-I design created by Dwight Fuerst.

New line of plastic bottles with a "custom" look

Here is a brand-new line of plastic bottles created by Dwight Fuerst, well-known package designer. It includes quarts, half-gallons and gallons, with a wide choice of colors. The half-gallons and gallons have built-in handles. With your labels and your choice of colors and caps these new bottles could be distinctively yours.

They are designed for bleaches and other chemically active liquids, such as shampoos . . . lotions . . . detergents . . . you name it.

In addition to their design features, the new containers have the advantages of polyethylene plastic. They are lightweight, durable, and nearly as easy to dispose of as paper bags.

Get in touch with your nearby O-I office or write directly to us for information.

PLASTIC BOTTLES
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO
PACIFIC COAST HEADQUARTERS • SAN FRANCISCO

New Home for MRM

MRM Co., Brooklyn, manufacturer of labeling machines and filling equipment for liquid and viscous products, will move into its new plant at the Technical Industrial Park, Plainview, L. I., N. Y. late this fall, it was announced recently.

Located on a three-acre site, the one-story brick and glass structure is approximately 25,000 square feet in area, more than double the firm's present facilities. Of the total area, 2,000 square feet has been allotted for offices and administration. The remaining factory section will have a centrally located stockroom, around which all manufacturing operations will take place. This design is expected to increase efficiency and production speed by as much as 15 per cent, the company states.

The new and expanded facilities, which will permit the firm to double its present output, offers sufficient room for expansion as well as parking accommodations for 100 cars, it is reported.

★

New Vulcan Plant

Vulcan-Associated Container Companies, Inc., Birmingham, Ala., recently announced plans for the construction of a new plant for Vulcan Containers, Inc., Bellwood, Ill. The plant, to be built adjacent to the present plant in Vulcan Industrial Park, will employ compact, high production lines for steel pails, small drums and tin cans. The containers can be supplied with "Hi-Bake" linings, and all types of openings or pouring spouts, decorated or lithographed, the company states. Also offered will be a full range of seamed or seamless tin cans, it was reported.

Artist's drawing of the new plant to be occupied by MRM Co., manufacturer of filling and labeling machines. The firm will be the first occupant of a new 140-acre Technical Industrial Park located at Plainview, Long Island.

Vern I. McCarthy, Jr., president of Vulcan-Bellwood and Robert B. Newman, vice-president and director of sales, report production operations will be set up by divisions, with no interruption in production or service.

★

Anchor Moves Office

Anchor Hocking Glass Corp., Lancaster, O., recently announced the removal of its Baltimore Package Division sales offices from 2404 Mathieson Building, 10 Light St., Baltimore, to new, larger and more modern quarters at 100 Latrobe Building, 2 East Read St., Baltimore 2, Md. The telephone number is 685-0924.

★

Crompton Acquires Vol-Pak

Crompton & Knowles Corp., Worcester, Mass., textile machinery producer, has acquired Vol-Pak, Inc., New York, manufacturer of modular packaging machines, it was announced recently. Vol-Pak machines will be manufactured at the recently completed plant of Crompton & Knowles Packaging Corp., Agawam, Mass., a division of the parent company.

The new addition to C&K's line will be known as Redington "Vol-Pak" modular pouch packaging machines, for volume automatic packaging of small to medium size pouches for the cosmetic and pharmaceutical industries, capable of handling tablets, pills, capsules, powders, semi-liquids and liquids on a single unit.

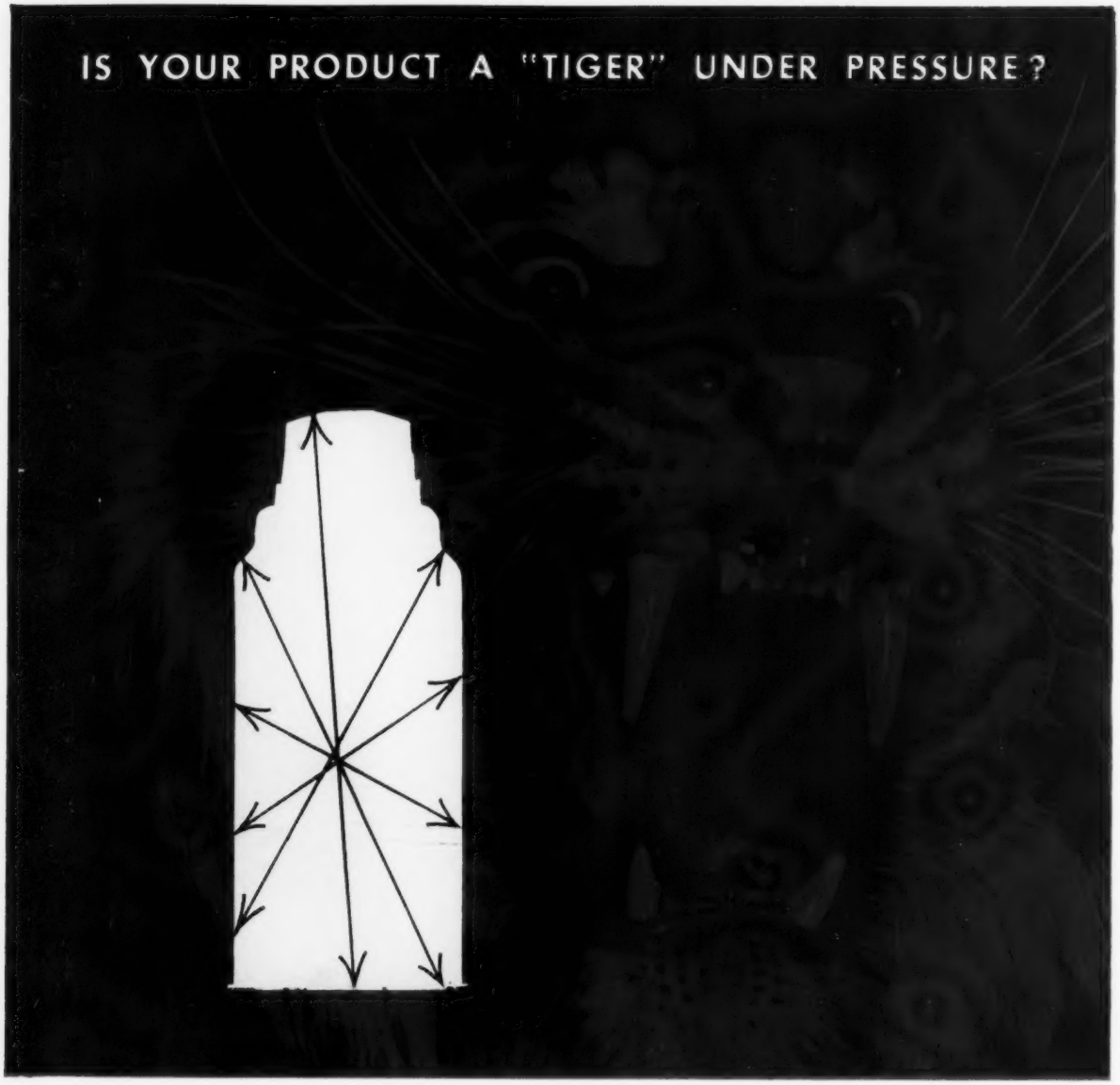
In addition to a broad line of cartoning, wrapping, labeling and case handling equipment, the division can now offer a complementary and versatile line of machines for pouch packaging, the company states.

★

New Pouring Spout

"Flo-Top," a new design for bottle pouring tops has been introduced by the Multi-Meter Division of Rieke Metal Products Corp., Toledo, O. Said to combine the features of a bottle cap with directional flow, a no-drip spout and an open-close control, "Flo-Top" provides fast flow by a novel venting arrangement, and reseals liquid in bottle by a twist of the cap, the company states. Molded of high impact polyethylene, red in color, "Flo-Top" fits all 28mm bottles having a 400 or 414 trim.

Artist's drawing of new plant being constructed for Vulcan Containers, Inc., Bellwood, Ill. The plant, being built adjacent to present facilities in Vulcan Industrial Park, will produce steel pails, small drums, and tin cans.



SEAMLESS CROWN SPRA-TAINERS **WILL HOLD IT!**

Some high pressure products found in today's aerosols are as hard to handle as a tiger. Others, like delicate pharmaceuticals and fragrant cosmetics present different but equally difficult problems. For these hard-to-hold products the *seamless* Crown Spra-Tainer offers a safe and practical solution. As originators of the disposable aerosol can, Crown offers a full line of both seamless and fabricated aerosol cans in a wide range of sizes, for every type of product . . . plus more experience in this field than anyone else can provide. For your packaging problems call on the leader . . . call on Crown!

YOUR PACKAGING DESERVES CROWN QUALITY

cans • crowns • closures • machinery

CROWN CORK & SEAL CO., INC.

9300 Ashton Rd., Philadelphia 36, Pa.

Packaging Institute Forum Program

CONCURRENT seminars will be the order of the day at the Packaging Institute's 23rd Annual National Packaging Forum, to be held Oct. 18-20, at the Biltmore Hotel, N. Y. Theme of the 1961 Forum is "The Broadening Horizons of Packaging Technology."

Successive speeches in each of the seminars, 12 in all, will start at the same moment as corresponding speeches in concurrent seminars so that packagers can select in advance the subjects they want to hear discussed and move from one seminar to another without missing any papers. L. H. Zahn, P. I. president and director of purchasing and package development, Ciba Pharmaceutical Products, Inc., will call the annual session to order at 10 a.m., Wednesday, Oct. 18.

The initial concurrent seminars will get under way as 2:30 p.m., Oct. 18. Topics of each are: "Research and Development," Dr. Frank C. Campins, president, Polymer Industries, Inc., seminar chairman; "Bulk Packaging," D. B. Carmody, purchasing agent, Union Carbide Corp., seminar chairman; and "Marketing," O. C. Holland, director of advertising, printing ink division, Interchemical Corp., seminar chairman.

Papers to be presented in the marketing seminar include:

"How Color and Design Affect Consumer Preference," Robert G. Neubauer, Robert G. Neubauer, Inc.; "Choosing Package Shapes and Sizes for Consumer Preference," Maxwell B. Rogers, director of package design, Avon Products, Inc.; "The Right Packaging Materials and Consumer Preference," Albert Kner, director, Design Laboratories, Container Corp. of America; "The Growing Influence of Convenience in Packaging," William S. Fishman, senior vice-president, Automatic Retailers of America, Inc., and "Predicting Consumer Preference in Packaging," Miss Doria N. Robineau, president, R. E. Van Rosen Corp.

The three seminars to be held on Thursday, Oct. 19 at 9:30 are: "Production Line and Machinery," Ira Gottscho, president, Adolph Gottscho, Inc., and R. Ross Kitchen, Glenbrook Laboratories Division, Sterling Drug, Inc., seminar co-chairman; "Paperboard," George T. Joyce, assistant director, product development department, St. Regis Paper Co., seminar chairman; and "Package Testing," George Roshkind, vice-president, Container Laboratories, Inc., seminar chairman. Included in the production line seminar is a talk on "Why and How Lederle Installed Its Own Low-Volume Aerosol Line," to be presented by L. Byron Kingery, assistant to the packaging superintendent, Lederle Laboratories Division, American Cyanamid Co.

Senator Philip A. Hart (Mich.), chairman of the Subcommittee on Antitrust and Monopoly, U. S. Senate Committee on the Judiciary will speak at the luncheon following the morning session. His address is entitled "The Hearings on Packaging and Labeling Practices and Your Package."

Subjects of the afternoon seminars are:

"Drug and Pharmaceutical," Charles Spannello, director of purchases, Schering Corp., seminar chairman; "Industrial Packaging," Charles J. Zusi, packaging consultant, seminar chairman; and "Food Packaging," Eugene J. Kane, manager, packaging research, Thomas J. Lipton, Inc., seminar chairman.

"E-Z Stacker," a new dome style utility can, available in five gallon and 40 pound capacities, is produced by the steel package division of Geuder, Paeschke & Frey Co., Milwaukee. Unit features a high dome bottom, with spout inverted into can for shipping.

On the final day of the forum, three concurrent seminars will be held in the morning only. They are:

"Flexible Packaging," Bruce Miller, Elm Coated Fabrics Co., and James Houle, Tee-Pak, Inc., seminar co-chairmen; "Adhesion," and "Food Additive Problems." Papers to be presented during the flexible packaging session are: "Oriented Polyvinyl Chloride Film," Woodrow J. Vogel, manager of the film division, Reynolds Metals Co.; "Sealability and Machinability of Polypropylene," R. L. Wibbens, plastic sales development, Hercules Powder Co.; "Flexible Packaging Overseas 1961," Lowell K. Hanson, general manager, overseas division, Continental Can Co.; "Laminated Films Add Up to Better Packages," Drury R. Burton, manager technical service and development, converting division of Dobeckmun Co., a division of Dow Chemical Co.; and "Polypropylene Films," Ralph M. Winters, manager of market development and technical service for film, AviSun Corp.

Included in the adhesion section are:

"Starch and Dextrine Adhesives — Past, Present and Future," Vincent K. Smith, chief chemist, American Adhesives Co.; "Resin Adhesives for Straight-Line Gluing," Edward J. Murray, development group leader, Morningstar-Paisley, Inc.; "New Developments in Synthetic Resin Hot-Melt Adhesives," Robert S. Forsyth, senior chemist, National Starch & Chemical Co.; and "Important Factors in Carton Sealing," Richard J. Nadaskay, process engineer, packaging, Personal Products Corp., a division of Johnson & Johnson Co.

"Your Future, Your Package and You," an address by Robert D. Glidden, vice-president, Personal Products Corp., will be delivered at the final luncheon Oct. 20.

—☆—

New Packaging Film

AviSun Corp., Philadelphia, recently announced plans to manufacture a new bi-axially oriented polypropylene package film, expected to be stronger, clearer and more versatile than existing films, according to Avi Sun.

The film will be produced at AviSun's new polypropylene resin plant in Wilmington, Del., which has an annual capacity of 100 million pounds.

DISSATISFIED CUSTOMERS ARE A HIDDEN COST!

REJECTS MAY BE THE REASON!

A high reject rate means dissatisfied consumers, and excessive costs. Defective units drain away your customers and reduce the value of your promotional dollars. When you reduce rejects you increase profits directly. So be sure, when you purchase aerosal valves for *your* product you have specified the best . . . PRECISION VALVES. PRECISION quality controls assure you of minimum rejects, maximum profits.

PRECISION VALVE CORPORATION
700 NEPPERHAN AVENUE, YONKERS, NEW YORK

What's New?

Pellet powdered "I.S.R." ice and snow melter from Utility Chemical Co., Paterson, N. J., now available in 25 pound "Carry-Home" carton, and 10 pound "See-Thru" polyethylene bag. Also packaged in 80 pound multi-walled water resistant bags; 25, 50 and 100 pound polyethylene lined kegs and 300 pound polyethylene lined leverpak drums. "Carry-Home" carton is supplied by Paramount Container Corp., New Hyde Park, N. Y.

"Fleecy White" bleach, produced by Purex Corp., Ltd., Lakewood, Calif., is now available in a new aqua colored plastic container. Packaged in quart, half-gallon and gallon "shatterproof" bottles, left to right in the picture, "Fleecy White" is being distributed in Pacific Coast and Rocky Mountain states, and in areas of the South and Southwest, as well as parts of Illinois, Indiana and Wisconsin.

"Krylon Spray Adhesive," marketed by Krylon, Inc., Norristown, Pa., makes surfaces pressure-sensitive for mounting paper, foil or fabric to any smooth surface. Quick drying and water resistant, product forms a positive bond within a few hours. Available in six and 16 ounce aerosol cans.

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Captions, facing page

"Tame" creme rinse recently introduced by Toni Co., Chicago, comes in new 16 ounce, family size bottle with plastic cap to retail for $1.59, plus tax.

A "Special Breck Shampoo Trial Offer" from John H. Breck, Inc., Springfield, Mass., consists of a four ounce shampoo regularly priced at 60 cents plus a 1½ ounce of shampoo valued at 30 cents, banded together for sale at 60 cents.

"Dazzle" bleach, product of J. L. Prescott Co., Passaic, N. J., has been introduced in polyethylene plastic jugs. The half-gallon and gallon containers, with metal caps, and large handle integrated into the design, are by Arrow Rubber & Plastic Corp., East Paterson, N. J.

Three products containing "Drianone," a new chemically-conditioned silica dust insecticide developed by Fairfield Chemicals Division of F. M. C. Corp., New York are: "Crazy Bait," distributed by Industrial Chemical Products Co., Philadelphia; "Hilo Super Flea Powder," Hilo Co., Bethpage, N. Y.; and "Omni-Dust," Superior Products, Inc., Philadelphia.

"Alberto VO5 Conditioning Creme Rinse," an after shampoo rinse recently introduced by Alberto-Culver Co., Melrose Park, Ill. Product is packaged in easy to hold seven ounce glass bottle with etched swirls and a pinched waist, supplied by Owens-Illinois Glass Co., Toledo. A foil label in maroon, gold, purple and white is supplied by Wheeler-Van Label Co., Grand Rapids, Mich. Unit retails for $1.00.

New "Spray Lube," an improved, faster drying liquid lubricant for open gears, has been introduced by nu-Aero Corp., West Chester, Pa. Product, in aerosol dispenser, still retains its pressure safety factors and flow back features to promote healing and complete wear protection on gear trains, company states.

Holiday gift sets from Parfum Corday, New York, include the "Wardrobe Trio," in Corday "Eau de Toilette." Three one-half ounce crystal miniature bottles of "Fame," "Toujours Moi," and "Trapeze" are enclosed in a gold and white package. Retail price, $3.50, plus tax. "Spraygrance Deluxe Ensemble," available in either "Toujours Moi" or "Fame" fragrance, contained in a new "Golden Deluxe Oval Aerosol Flacon," offers over 1,000 measured sprays of cologne. Accompanying the "Deluxe Flacon" is a "Purse-size Flacon," said to deliver 200 applications. Both flacons are refillable and package containing both sizes, in either fragrance, retails for $10.00, plus tax.

"Lady Catherine" spray cologne, recently introduced by Stanley Home Products, Inc., Westfield, Mass., is available in a glass-pressure bottle, supplied by Owens-Illinois Glass Co., Toledo. Individual folding carton, supplied by Warner Brothers Co., Bridgeport, Conn., matches the container in color and label. Gold metal slip-on caps were supplied by Virgune Manufacturing Co., Waterbury, Conn.

"Afta Leather and Plastic Cleaner," recently introduced by Afta Solvents Corp., Glen Cove, N. Y., is said to be a non-toxic, non-flammable product for cleaning leather, plastic, vinyl, leatherette and all synthetic upholstery finishes. The 16 ounce lithographed polyethylene bottle is fitted with a nylon bristle brush top. Valve action permits application of cleaner.

Captions, this page

"Purex" bleach, produced by Purex Corp., Ltd., Lakewood, Calif., is now available in new plastic container. Packaged in quart, half-gallon and gallon "shatterproof" bottles, left to right.

"Hair Alive," recently introduced by Realistic Co., Cincinnati, is an instant, no-rinse, spray-on conditioner available in professional concentrate form only. Packaged in a clear, high density eight ounce polyethylene bottle supplied by Plax Corp., Hartford, Conn. Initial bottle can be used as handy dispenser, utilizing spray dispenser from Calmar, Inc., Cincinnati. A new line of cosmetics and toiletries called "From a Misty Garden" has been introduced by Fuller Brush Co., East Hartford, Conn. Included are spray cologne, packed in a glass pressure bottle and lavender plastic slip-on closure; toilet water in a clear, frosted glass bottle and pink screw top; floating bath droplets in a clear, frosted bottle with lavender plastic screw-top closure; powder sachet in a lavender plastic bottle with pink plastic screw-top closure; and cream sachet packed in an opal jar with a pink plastic screw-top closure. Owens-Illinois Glass Co., Toledo, supplied the glass pressure bottles and all plastic closures. Frosted bottles are by Knox Glass, Inc., Knox, Pa.; plastic bottles by Plax Corp., Hartford, Conn., and jar by W. Braun Co., Chicago.

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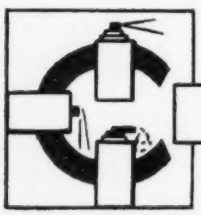

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new trade marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany each notice of opposition.

Kiwi—This for shoeshine preparation. Filed Dec. 8, 1960 by Kiwi Polish Company Proprietary, Ltd., Richmond, Australia. Claims use since Feb. 29, 1960.

Mr. Sure Start—This for combustible fluid for igniting charcoal or other materials. Filed Nov. 23, 1959 by Mac's Super Gloss Co., Los Angeles. Claims use since Nov. 5, 1959.

CL-1301—This for germicide-deodorant for household and/or industrial use. Filed Oct. 27, 1960 by Marceli Industries, Pasadena, Calif. Claims use since July 19, 1959.

Bakthane—This for insecticide. Filed Nov. 16, 1960 by Rohm & Haas Co., Philadelphia. Claims use since Nov. 7, 1960.

Aqua-Kleen—This for chemical preparation for exterminating weeds. Filed Dec. 12, 1960 by Amchem Products, Inc., Ambler, Pa. Claims use since April 29, 1960.

Seal Gloss—This for floor finish in the nature of a polishing material. Filed Feb. 10, 1961 by Earl Grissmer Co., Indianapolis. Claims use since Dec. 5, 1960.

Algaecidex — This for chemicals for control of algae. Filed Oct. 23, 1959 by Alexander Chemical Corp., Chicago. Claims use since March 1956.

Pole-Aid — This for wood preserving compound. Filed April 22, 1960 by J. H. Weiler Inspection Service, Inc., Denver. Claims use since March 11, 1960.

Myzon — This for insecticides and rodenticides. Filed Aug. 11, 1960 by Gray Realty Corp., Chicago. Claims use since May 31, 1960.

Baby Safe — This for laundering sanitizer. Filed Dec. 12, 1960 by Robil Chemical Corp., Lincoln, R. I. Claims use since June 1, 1959.

Kwik-Way — This for liquid detergent. Filed Feb. 26, 1960 by Foodland, Inc., Cleveland, O. Claims use since September 1959.

Kitchen-Klatter — This for all-purpose household cleaners. Filed Feb. 29, 1960 by Driftmier Co., Shenandoah, Iowa. Claims use since Jan. 4, 1960.

Vision Kleen — This for concentrated cleaning pellets for use on glass, hard surfaces, walls and fabrics. Filed May 10, 1960 by Abbott-Lane Industries, Inc., Merrick, N. Y. Claims use since February 1955.

Rough 'N Ready—This for impregnated scouring pads. Filed April 3, 1961 by Colgate-Palmolive Co., New York. Claims use since Nov. 2, 1960.

Celeste—This for soap. Filed Nov. 6, 1958 by Angelique and Co., Wilton, Conn. Claims use since Oct. 27, 1958.

Lady Luxury—This for bubble baths, bath crystals and guest soap. Filed Jan. 19, 1961 by Beacon Enterprises, Inc., Chicago. Claims use since Dec. 1, 1960.

Fullspeed—This for floor cleaner and wax stripper. Filed Feb. 27, 1961 by Fuller Brush Co., East Hartford, Conn. Claims use since Oct. 7, 1960.

Z-Zorbit—This for dry powder used in absorbing oil, grease, and other materials. Filed March 30, 1961 by Z-Zorbit Co., La Jolla, Calif. Claims use since Feb. 4, 1961.

Dart—This for powdered detergent. Filed March 21, 1961 by Monarch Chemicals, Inc., Minneapolis. Claims use since Sept. 12, 1949.

Germa San—This for surgical detergent. Filed March 27, 1961 by Huntington Laboratories, Inc., Huntington, Ind. Claims use since March 23, 1961.

Dart — This for washing machine compound and an industrial detergent. Filed April 13, 1961 by Stearns Chemical Corp., Madison, Wis. Claims use since 1950.

Scamper—This for toilet soap. Filed April 6, 1961 by Safeway Stores, Inc., Oakland, Calif. Claims use since September 1960.

Dart—This for chlorinated detergent for use in dairies for cleaning pipeline systems, bulk tanks, and tank trucks. Filed June 15, 1961 by Economics Laboratory, Inc., St. Paul, Minn. Claims use since March 24, 1960.

Jack Frost—This for chemical compound for etching glass. Filed March 3, 1961 by McKay Chemical Co., Brooklyn. Claims use since Sept. 1, 1930.

Earl of Mink—This for hair shampoo. Filed Sept. 21, 1959 by Minkolein Co., Waldwick, N. J. Claims use since May 20, 1959.

Act-o-vene—This for rug, carpet and upholstery cleaner. Filed Sept. 28, 1959 by Madison Supply and Equipment Co., Maywood, Ill. Claims use since April 1954.

Quick-dip — This for preparation for the cleaning of silver. Filed Aug. 4, 1960 by American Home Products Corp., New York. Claims use since Nov. 3, 1952.

Lestoil Sparkle Scent—This for liquid detergent for laundering and household cleaning. Filed Sept. 2, 1960 by Lestoil Products, Inc., Holyoke, Mass. Claims use since Aug. 16, 1960.

Amway—This for all purpose cleaning concentrates, detergents and soaps in liquid, powder and solid form. Filed Sept. 9, 1960 by Amway Sales Corp., Grand Rapids, Mich. Claims use since Nov. 16, 1959.

Warco — This for rug and upholstery shampoo. Filed Jan. 31, 1961, by Warco Laboratories, Inc., Gardena, Calif. Claims use since July 29, 1960.

Fix-off — This for stain remover for fabrics. Filed March 13, 1961 by Fix-Off Co., Detroit, Mich. Claims use since Oct. 14, 1954.

Jadex — This for household detergent. Filed March 14, 1961 by Northern Laboratories, Manitowoc, Wis. Claims use since Feb. 13, 1961.

Alert — This for silicone cream polish and cleaner and polish for porcelain, glass and metal. Filed Dec. 15, 1959 by John C. Stalfort & Sons, Inc., Baltimore, Md. Claims use since June 15, 1959.

Flower Guard — This for combination insecticide, fungicide and miticide. Filed Dec. 7, 1959 by Shulton, Inc., Clifton, N. J. Claims use since Oct. 15, 1959.

Tabit — This for chlorine tablets used as a disinfectant-algaecide in swimming pool waters. Filed Jan. 4, 1960 by Southland Chemical Co., Los Angeles, Calif. Claims use since Sept. 15, 1959.

Pro Tex — This for brake fluid. Filed April 14, 1960 by Master Automotive Chemicals, Inc., Brooklyn. Claims use since Feb. 15, 1946.

2-Way — This for insecticides, rodenticides and herbicides. Filed Aug. 1, 1960 by Nash & Kinsella Laboratories, Inc., St. Louis. Claims use since March 13, 1942.

Surewhite — This for household germicide for tile, glass, tubs and pools. Filed Oct. 31, 1960 by General Pool Supply Co., Los Angeles. Claims use since June 13, 1925.

Alert — This for window cleaner and prewax cleaner for all types of floors. Filed Dec. 15, 1959 by John C. Stalfort & Sons, Inc., Baltimore, Md. Claims use since June 15, 1959.

Flo-Stryp — This for paint remover particularly adapted for removal of lacquer and enamel from large metal surfaces. Filed Aug. 5, 1960 by International Chemical Co., Philadelphia. Claims use since Dec. 4, 1958.

Dean's Pride — This for pet shampoo. Filed Aug. 16, 1960 by Dean's Pride, Inc., Denver, Colo. Claims use since May 3, 1960.

Institution X — This for sudsing cleaner, cleanser and detergent. Filed Jan. 31, 1961 by Procter & Gamble Co., Cincinnati. Claims use since Dec. 15, 1914.

Captive Beauty — This for toilet soap. Filed Feb. 28, 1961 by Yardley & Co., Ltd., London. Claims use since Nov., 15, 1957.

Fels-matic — This for detergent for laundry purposes. Filed April 28, 1961 by Fels and Co., Philadelphia. Claims use since Nov. 21, 1960.

barC—This for turf fungicide. Filed Mar. 10, 1960 by Upjohn Co., Kalamazoo, Mich. Claims use since Feb. 18, 1960.

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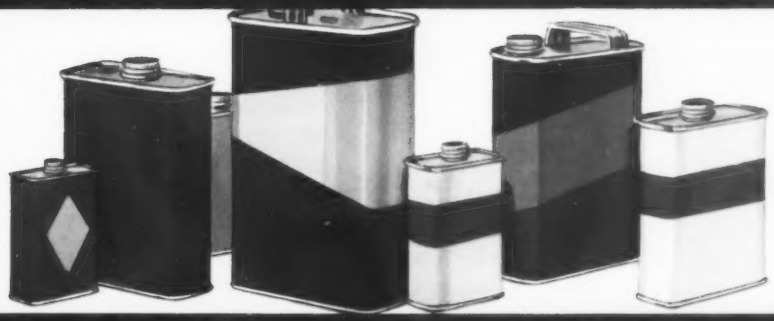

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pressure packaging

Renews College Aid Grant

The General Chemical Division of Allied Chemical Corp., New York, for the third consecutive year, has renewed its $3,000 aid grant for aerosol research to the College of Pharmacy, St. John's University, Jamaica, N. Y.

Initiated in 1959, under the direction of Dr. John J. Sciarra, associate professor of pharmaceutical chemistry, the program has been concerned with the solubility and stability of pharmaceuticals in aerosols. The work for the coming year will involve the physiological response of these drugs in aerosol form. The title of the program is "Medicinals in Pressurized Packages for Inhalation Therapy — Physiological Response".

The College of Pharmacy at St. John's has one of the newest and largest specialized aerosol research laboratories in the country and is one of several colleges and universities now devoting part or all of their development program solely to aerosol research.

—★—

New Packaging Plant

Rochester Aerosol Corp., Rochester, Mich., a newly formed packaging plant for non-food items, including hair sprays, deodorants and shaving cream, will open shortly under the Small Business Administration's Local Development Company Loan Program. A loan of $240,000 will be used for the acquisition of land, conversion and construction of buildings and the purchase of machinery and equipment by the Rochester Area Development Corporation.

—★—

24 Ounce Aerosol Can

American Can Co., New York, has announced the development of a 24 ounce aerosol container, to be introduced in December. The trim style aerosol unit is said to be only fractionally larger in diameter than the present 16 ounce size, yet holds approximately 50 per cent more product. Canco estimates the market for the new large economy size aerosol container at more than 15,000,000 units a year.

Emory St. Todd, third from right, president, Todd, Blunt & Williams, Inc., Narbeth, Pa., is presented with the "1961 Krylon Sales Achievement Award" by James W. Bampton, third from left, president, Krylon, Inc., Norristown, Pa. The award is presented annually to the top Krylon sales representative organization. Also shown are, left to right: Elmore E. Kayser, Krylon vice-president in charge of advertising and promotion; Richard C. Newbold, Krylon vice-president in charge of sales; J. Robert Blunt and Richard M. Williams, vice-presidents, Todd, Blunt & Williams, Inc.

—★—

Plasti-Kote Wins Award

The 1961 National Automotive Accessories - Parts - Equipment award, for the "Best Non-Automotive Chemical" product, was presented to Plasti-Kote, Inc., Cleveland, for its new "Target Line" of push button spray paints. The award was presented at the NA APE Show held recently in Las Vegas.

The winning product is said to have an exclusive "Accu-Spray" head, designed to give a more accurate and positive directional spray. The fast drying paint line also features a new 16 ounce package, it was reported.

New, 24 ounce "large economy size" aerosol, right, recently developed by American Can Co., New York. Firm estimates market for the giant container at more than 15,000,000 units a year.

Visual Evaluation of Pressure Packages

VISUAL evaluation of aerosol samples undergoing pre-production tests is possible with a new test kit developed by Pressure Pak, Inc., 420 Monceaux Rd., West Palm Beach, Fla. Core of the novel kit is a graduated clear plastic coated glass container, enabling the user to eye-witness and judge any changes occuring in the package after it has been filled and charged.

First, the product is proportioned into the bottle, either gravimetrically or volumetrically. Next, the valve is locked in place by means of the screw-on coupling. (Fig. 1) Various valve arrangements can be used with different gasketing materials and varying orifice sizes in the stem, body and vapor tap. Tips are interchangeable to give the desired spray pattern. The screw-on coupling assembly makes the container re-usable.

Propellants are charged through the valve by means of a transfer button (Fig. 2). Then the pressure is checked (Fig. 3) and the product is ready for dispensing (Fig. 4). Sprays, foams, and mists can be dispensed from the test containers. Compressed gases, fluorocarbons, hydrocarbons, and propellant mixtures can be used to charge the sample.

Tests which may be run with the visual test kit "#600G" include evaluations of shelf life, propellant/product compatibility, spray patterns, eductor tube elongation, emulsion stability, and others. It also lends itself to metal immersion corrosion tests.

The kit contains clear plastic coated graduated glass bottles, valves, tips, pressure gauge and propellants, costs less than $40.00.

—★—

New Plasti-Kote Catalog

A full color catalog outlining all the features of a new fast drying aerosol spray paint has just been published by Plasti-Kote, Inc., Cleveland, O. The illustrated catalog introduces the new "Target" line, and includes complete information on all the features of the new spray paint: "Accu-Spray-head," "PCWA Rust Inhibitor," "Fast-Fast" dry operation, and tamper-proof cap.

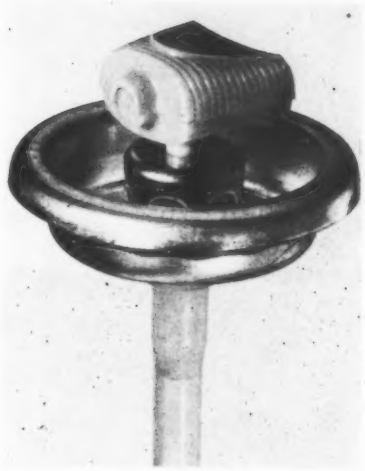
The company has also introduced two point of sale displays, to help dealers merchandise its "Target" line of spray paints. The "Twirl-Wind" display features a ferris wheel movement which holds a 72 can assortment. The counter display is 19 inches wide, 21 inches deep, 34 inches high and weighs seven pounds. The floor display has a 144 can assortment and is 19 inches wide, 27 inches deep, 62 inches high and weighs 15 pounds.

—★—

Uni-Valve Aerosol Valves

Uni-Valve Corp., Franklin Park, Ill., recently announced its entry into the packaging field as a manufacturer of aerosol valves.

The UV-100 valve is said to eliminate the necessity for metering holes or slots and to provide



versatility of flow and spray patterns by design of a molded nylon bullet in the rear of the spray head.

—★—

Aerosols in France

Production of pressurized packages in France has increased by about 30 per cent from 1959 to 1960, according to a brief survey presented by C. Franck at a recent meeting of the Freach Aerosol Association (Comite Francais des Aerosols).

Between 32 and 34 million units were produced in 1960, compared with 25 million in 1959, according to this author's estimate. Output in Germany is placed at between 38 and 40 million units, in the United Kingdom at 35 million packages in 1960.

Figures for individual aerosol categories are not available for reasons of nondisclosure. Expansion from 1959 to 1960 is given in percentages, as follows: Insecti-

(*Turn to Page* 164)

Fig. 1. Graduated plastic coated glass bottle is core of visual aerosol test kit. Screw-on valve assembly coupling makes bottle re-usable.
Fig. 2. Propellant is charged through valve by means of transfer button.
Fig. 3. Pressure is checked.
Fig. 4. Spray, mist or foam can be dispensed from kit.

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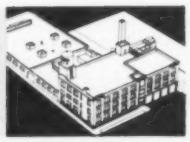

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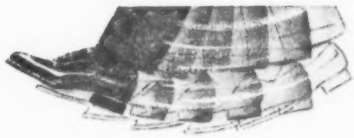

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(*From Page* 161)

cides, space deodorants, and other household chemical specialties—30 to 40 per cent; perfumes and cosmetics—100 per cent; pharmaceuticals—250 per cent; paints and varnishes—"similar proportions." *Parfumerie, Cosmetique, Savons,* June 1961, page 244.

—★—

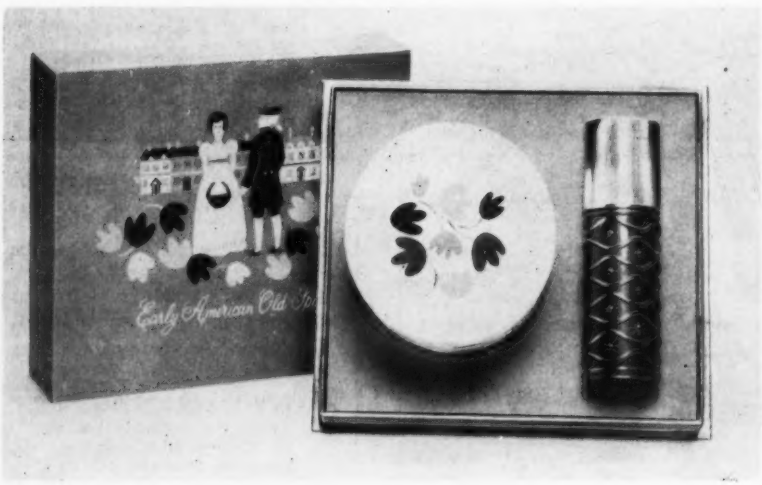
Canadian Aerosol Contest

The first Annual Canadian Aerosol Package Contest, sponsored by the Canadian Manufacturers of Chemical Specialties, will be held at the Association's convention, October 30-November 1, 1961, at the Royal York Hotel, Toronto.

Awards, based on the appearance of label design, color, package shape and valve cover will be made in 15 categories, including automotive products, insecticides, paints, hair preparations and food products.

—★—

Shulton, Inc., Clifton, N. J. has announced redesigned packaging for its "Early American Old Spice" line of women's toiletries. The old Spencerian script and early American character of the original design were retained, but package is now in a blue color. Shown is the $4.00 Gift Set containing a seven ounce box of dusting powder and a two ounce flacon of spray cologne.



Gen. Chemical Lab Moves

The technical service laboratory of the General Chemical Division of Allied Chemical Corp. has moved to new quarters, it was announced in September. It is now housed at the company's Morris Township, N. J., research center. Previously, the laboratory had been located in Edgewater, N. J.

General Chemical's technical service laboratory is concerned with applications of the firm's specialty chemicals in detergents, aerosols, and a host of other products.

New address is: Technical Service Laboratory, General Chemical Division, Allied Chemical Corp., P. O. Box 405, Morristown, N. J., telephone: JEfferson 8-8000.

Carbide Expands Aerosol Propellant Line

UNION Carbide Chemicals Co. is expanding its "Ucon" line of flurorocarbon propellants to include two new propellant blends, hydrocarbons, and nitrogen, it was announced early this month. Vinyl chloride may be added to the line in the near future.

According to Thomas M. Hartley, sales manager of "Ucon" propellants, this move will provide Carbide with the most complete line of propellants available. In the trade, it is seen as Carbide's bid for an even larger share of the propellant market in which it currently takes third place (after du Pont and General Chemical Division).

The new blends are "Ucon" Paint Propellant and Propellant A for use in hair sprays, insecticides and room deodorants. Both are designed to provide economies over straight fluorocarbons without requiring any alteration in filling equipment, according to E. E. Husted, manager of Union Carbide's fluorocarbon marketing. Both blends are non-flammable, Carbide says.

The company's technical service laboratory at Tarrytown, N.Y., is currently adapting its activities to cover the new propellants and blends. Technical assistance is offered to loaders interested in establishing hydrocarbon facilities.

The paint propellant's composition is 75 per cent "Ucon 12" (dichlorodifluoromethane); 10 per cent "Ucon 11" (trichlorofluoromethane), and 15 per cent dimethyl ether.

The presence of dimethyl ether is said to account for the blend exhibiting better solubility for the resins in the paint formulation and a higher expansion ratio than straight fluorocarbon 12. The new propellant is also said to have better compatibility with resin solutions than straight fluorocarbon and to be "completely free from flammability dangers at all normally encountered temperatures."

The higher expansion ratio of the propellant blend is claimed to cut by up to seven per cent the amount of propellant needed for paint pressure packaging. In acrylic lacquer formulations more of the blend can be tolerated than of straight fluorocarbons. In nitrocellulose lacquer more diluent can be used further lowering the cost of formulation, Carbide claims.

"Ucon" paint propellant lends itself to both pressure and cold filling. Its vapor pressure is 62 psig and it has an actual density of 1.210. Cost of the material is 0.238 cents per pound in tank car quantities.

Propellant A is a mixture of 45 per cent "Ucon 11;" 45 per cent "Ucon 12"; and 10 per cent isobutane. The material is said to offer a two to three cents per pound savings over blends of fluorocarbon propellants 11 and 12 and can be used to load the same products.

Hydrocarbons recently added to the "Ucon" line of aerosol propellants include isobutane, propane and their blends. These compounds are saturated hydrocarbons claimed to be odorless and noncorrosive, entirely compatible with all components of a pressure package, including fluorocarbons. They may be used either to provide the propellant force in three phase systems or to dilute conventional propellants to reduce the cost of the finished products.

Purse size pressure bottles from Owens-Illinois Glass Co., Toledo, are being used by Coby's Co., Memphis, Tenn., for its "Cub" insecticide, and "Jeadot Perfect Sunscreen" hair color and texture protector. Refillable miniature bottles are topped with a white plastic cap.

The New York City Fire Department is considering regulations which would gravely affect the sale in New York City of all aerosol products containing flammable gases. Butane, propane, isobutane and other hydrocarbons are considered flammable by the department. This development may confront Carbide with a serious problem.

Carbide's decision to expand and round out its line of aerosol propellants takes account of the loader's very narrow profit margin and the urgent need to cut the cost of propellants, a major item on his budget. Availability of all types of propellants from one source is a

"Meti-Derm," "Meti-Derm" with neomycin, "Diloderm," and "Neo-Diloderm" (containing neomycin), four new dermatological products recently introduced by Schering Corp., Bloomfield, N. J., are packaged in one and one-quarter ounce "Peerasol" containers, supplied by Peerless Tube Co., Bloomfield, N. J. The "squat," one piece aluminum containers are equipped with spray valves supplied by Precision Valve Corp., Yonkers, N. Y. Schering does its own filling.

convenience extended to propellant consumers and an indirect source of savings.

★

FTC Rules Against Carter

A Federal Trade Commission hearing examiner has ruled, subject to appeal and review by the full commission, that Carter Products, Inc., New York manufacturer of "Rise" shaving cream, used "a phony substance resembling shaving cream" in its television commercial which allegedly falsely disparaged competing products.

★

Allied Appointments

The General Chemical Division of Allied Chemical Corp., New York, recently announced three research appointments.

William C. Ruch has been named director of development research; Robert W. Mason, director of laboratory research, and Charles D. Bover, Jr., director of planning research. All three men, formerly assistant directors of their respective departments, will be located at the General Chemical research laboratory, Morris Township, N. J.

★

Peerless Publication

"The Peerless Report," a new publication produced by Peerless Tube Co., Bloomfield, N. J., made its debut in August. The publication contains stories about recent developments in metal tubes and aerosol packaging as they relate to the cosmetic, toiletry, drug and pharmaceutical industries. A comprehensive article entitled "The Outlook for Medical Aerosols," is presented in the initial issue, which points up this expanding field; a seventeen-fold increase from 1954 to 14,000,000 unit volume estimated for 1960.

Continental Can Lab

(From Page 139)

ment unit is the development of lightweight tinplate containers. Plate as light as 35 pounds is currently being investigated.

The corrosivity tester, developed in this laboratory, is an electrochemical method for the rapid determination of a product's corrosiveness. It is useful for shelf life evaluation of aerosols and other critical metal contained packages.

Work on aluminum cans is being carried on and containers of composite materials such as plastics, aluminum foil and paper laminates, are being investigated. High speed welding of can side seams to eliminate soldering is another research project in this department.

An important piece of equipment developed by this team is a blow molding machine turning out 75 twelve-ounce polyethylene detergent bottles per minute. The unit has a capacity of 125 such bottles per minute.

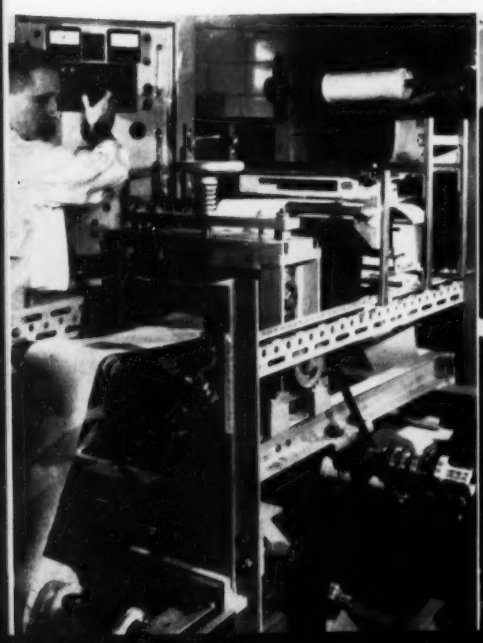
Central Research

Long range research on new packaging materials, methods, equipment, and their uses is the concern of the central research and engineering division, organized in 1957. Curtis E. Maier, general manager of the division heads a staff of 75 scientists, supporting staff of 34, and two patent lawyers.

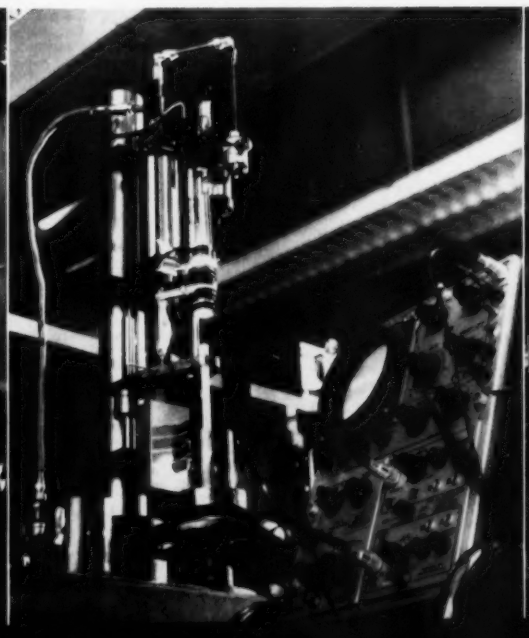
Top priority is being given to a search for an economically feasible electric welding method to manufacture endless lengths of tubular tinplate can bodies at very high speed. Customizing metal cans to a variety of shapes without slowing down the production line, is another current project. A novel process for manufacture of aluminum cans and another method for injection blowing plastics are being developed.

Consolidation of Continental Can's research activities places the firm's vast armatorium of testing, engineering, and pilot plant equipment at the disposal of a much larger number of technical men than heretofore. It also facilitates the exchange of ideas and the loaning of experts of one department to another.

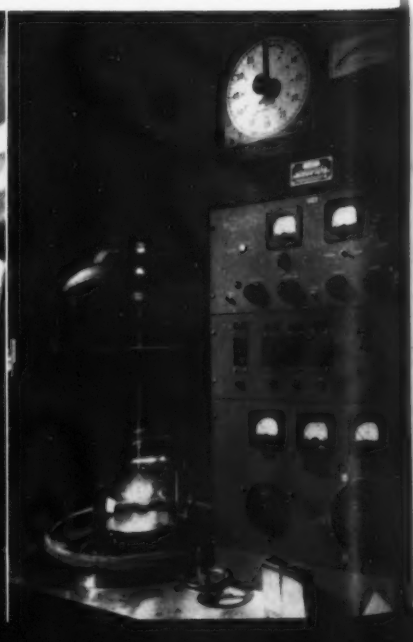
Beta thickness gauge and console measures thickness of film deposited by pilot film treatment line at Continental's Central Research and Engineering Lab.



New inspection device at Plainfield laboratory measures thickness variations in glass to 5/1000th of an inch by using photoelectric scanner.



Vacuum metallizer coats base metals, paper, and plastic with films as thin as 2 millionths of an inch. Film may be aluminum, chromium or other metal.



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- A-14 Development and Problems in Cosmetic Aerosols
- A-16 Aerosol Coating Compositions
- A-48 The Formulation of Aerosol Alkyd Enamels
- B-18F U. S. Patents of Interest in Connection with Aerosol Food Products
- FA-13 The Formulation of Aerosol Coating Compositions with "Freon" Fluorinated Hydrocarbon Propellents
- FA-17A Aerosol Powders
- FA-18 Propellents for Low-Pressure Cosmetic Aerosols
- KTM-20 Aerosol Antitarnish Formulation

ANALYTICAL
- A-11 The Analysis of Moisture in Aerosol Formulations
- B-8 Quality Specifications and Methods of Analysis for the "Freon" Fluorinated Hydrocarbon Refrigerants
- B-21 Procedure for Sampling "Freon-12" and "Freon-22" from Tank Cars
- B-23 Moisture Determination in "Freon" Fluorinated Hydrocarbon by Karl Fischer Titration
- B-25 New Instrument for the Moisture Analysis of "Freon" Fluorinated Hydrocarbons
- B-27 Operation and Maintenance of Model W Electrolytic Moisture Analyzer
- B-28 Quantitative Determination of Fluorinated Hydrocarbons by Gas Chromatography
- B-37 A Guide to Methods of Analysis of "Freon" Refrigerants
- FA-23 Determination of "Freon" Propellent Composition with a Pressure Pycnometer
- RT-6 Moisture Determination in Refrigerant-Oil Solutions by Karl Fischer Method

LABORATORY TECHNIQUES
- A-17 Formulation of Aerosol Products
- FA-10 Apparatus for Pressure Loading Aerosol Containers in the Laboratory
- KTM-11 A Method for Measuring the Vapor Pressure of Aerosol Products

CORROSION
- A-19 Corrosion in Aqueous and Alcoholic Aerosol Systems
- A-51 Mechanism of the Reaction Between Trichloromonofluoromethane and Ethyl Alcohol
- B-5 Stability and Corrosive Properties of "Freon-12" Dichlorodifluoromethane
- FA-6 Corrosion of Aluminum in Propellent Systems

TEST METHODS
- A-45 A Tentative Method for Determination of the Particle Size Distribution of Space Insecticide Aerosols
- A-46 A Tentative Method for Determining Pickup Efficiency of Residual Aerosol Insecticides
- FA-15 The Effect of Air on Pressure in Aerosol Containers

FILLING METHODS
- A-47 An Improved Method of Loading Aerosol Containers
- FA-24 Blending "Freon" Propellents

SYSTEMS
- A-49 Aerosol Emulsion Systems
- A-53 Nonaqueous Aerosol Foam Systems
- FA-4 The Behavior of Certain Typical Emulsifying Agents in "Freon"-Water Systems
- FA-21 Aerosol Emulsions with "Freon" Propellents
- FA-25 Studies of "Freon" Propellent/Glycol Systems

FOOD PRODUCTS
- A-50 Nitrous Oxide and "Freon" C-318 as Propellents for Aerosol Food Products

TOXICITY
- A-52 Toxicity of Fluorinated Hydrocarbon Aerosol Propellents
- A-54 Toxicity of Propellents

PROPERTIES
- B-2 "Freon" Compounds
- B-9A Liquid and Vapor Thermal Conductivity of the "Freon" Refrigerants
- B-10A The Viscosities of "Freon" Refrigerants (Use for General Purposes)
- B-18 Properties of "Freon C-318"
- B-19 Physical Properties of Fluorocyclobutanes
- B-26 Use of Tables and Charts of Thermodynamic Properties of the "Freon" Refrigerants
- B-29A Du Pont "Freon" FE 1301 Fire Extinguishing Agent
- B-30 Properties of "Freon-13B1"
- B-31 Liquid Density of the "Freon" Compounds
- B-32 Refractive Index of Gaseous "Freon" Compounds
- B-33 Thermal Stability of the "Freon" Compounds
- FA-7 Propellent Solutions Containing "Freon-22" Chlorodifluoromethane
- FA-22 Vapor Pressure and Liquid Density of "Freon" Propellents
- FA-26 Solvent Properties Comparison Chart

HANDLING
- B-3 Shipping Containers for the "Freon-12" Dichlorodifluoromethane
- B-11C Handling of One-Ton Containers of "Freon" Fluorocarbon Compounds
- B-20 Bulk Handling of "Freon" Compounds
- B-20A Cleaning, Flushing and Testing "Freon" Bulk Storage Systems
- KTM-14 Handling "Freon" Fluorinated Hydrocarbon Compounds in the Laboratory

SOLUBILITY
- B-7 The Solubility Relationships of "Freon" Compounds
- B-14 Solubility of Air in "Freon-12" and "Freon-22"
- B-14A Solubility of Nitrogen in "Freon-114"
- B-17 Water Solubility of "Freon" Refrigerants
- FA-3 Kauri-Butanol Values of Certain "Freon" Refrigerants

EFFECTS ON MATERIALS
- B-12A Effect of "Freon" Fluorocarbons on Elastomers
- RT-26 The Permeability of Plastic Films to "Freon-12" Refrigerant and Nitrogen

VAPOR PRESSURE CHARTS
- C-4 Pressure-Temperature Relationships of Refrigerants (Charts I and II—Large and Small)
- C-5 Large Vapor Pressure Charts of "Freon-12"/"Freon-11" and "Freon-12"/"Freon-114" Solutions
- C-5A Liquid Density Charts of "Freon-12"/"Freon-11" and "Freon-12"/"Freon-114" Solutions (4 charts)
- C-6A Vapor Pressure of "Freon C-318"

SAFETY
- S-16 The "Freon" Compounds and Safety

MARKETING
- A-13168 Package for Profit
- A-15380 Aerosol Market Report

FREON® propellents

A-8	FA-18	B-28	A-51	A-49	B-2	B-31	B-20	B-17A
A-9	KTM-20	B-37	B-5	A-53	B-9A	B-32	B-20A	RT-26
A-14	A-11	FA-23	FA-6	FA-4	B-10A	B-33	KTM-14	C-4
A-16	B-8	RT-6	A-45	FA-21	B-18	FA-7	B-7	C-5
A-48	B-21	A-17	A-46	FA-25	B-19	FA-22	B-14	C-5A
B-18F	B-23	FA-10	FA-15	A-50	B-26	FA-26	B-14A	C-6A
FA-13	B-25	KTM-11	A-47	A-52	B-29A	B-3	B-17	S-16
FA-17A	B-27	A-19	FA-24	A-54	B-30	B-11C	FA-3	A-13168
								A-15380

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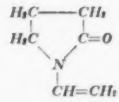
aerosol patents

No. 2,995,521. Foam Producing Compositions, patented by Jean Jacques Estignard-Bluard, 14 rue de L'Embarcadere, Chantilly, France. This patent covers a composition which has a fixed specific volume when maintained in a thick body at ordinary room temperature and under atmospheric pressure, so that it may be packaged in non-pressure containers, but which is self-foaming at the same temperature and pressure when spread over a surface in a thin layer, said composition attaining a vapor pressure of 1 kg./cm.^{2} absolute at a temperature not less than 30° C. and not greater than 55° C., and no greater than 2.5 kg./cm.^{2} absolute at a temperature of 60° C., and consisting essentially of an intimate mixture of an aqueous saponaceous composition which is capable of foaming when agitated in the presence of air, together with an additive which is liquid at room temperature and atmospheric pressure but becomes gaseous under atmospheric pressure at a temperature not exceeding 55° C., said additive comprising at least one substance taken from the class consisting of saturated aliphatic hydrocarbons having more than 4 and less than 7 carbon atoms and trichlorotrifluoro ethane.

No. 25,022. Sprayable Water Free Alcoholic Polyvinyl Pyrrolidone Hair Preparation, patented by Maurice L. Spiegel, Minneapolis, assignor to La Maur, Inc., Minneapolis. (Original No. 2,871,161, Jan. 27, 1959). This reissued patent describes a substantially water-free sprayable liquid hair styling preparation for applying to the surface of the hair for setting [the] and lusterizing the same, comprising polyvinylpyrrolidone, alcohol, and a propellant selected from the group consisting of fluorochloromethanes and fluorochloroethanes.

A process of holding and lusterizing human hair for cosmetic effect, comprising applying to the hair a substantially water-free alcoholic solution of a product essentially consisting of polymerized units of the structure:



No. 2,997,243. Aerosol Container, patented by George E. Kolb, 116 Chestnut St., Huntingdon Valley, Pa. Claimed is an aerosol container comprising a hermetically closed container, a valve mounted on the wall of the container and having a tubular valve stem projecting beyond the wall of the container and slidable between a valve closed position and a valve open position, said valve stem having a valve member disposed therein controlling the inlet thereto, a radially extending port in the wall of said valve stem adjacent its outer end, and an actuating button having a blind hole therein extending from its bottom surface and a pair of circumferentially spaced passages extending radially therethrough from its outer surface to said blind hole, the valve stem fitting into said blind hole and abutting the bottom thereof, the button being rotatable relative to said valve stem to selectively bring each of said passages into alignment with said port.

No. 2,997,597. Apparatus for Measuring Particle Sizes in an Aerosol, patented by Victor R. Mumma, Boonsboro, Md., assignor to the United States of America as represented by the Secretary of the Army. In an apparatus for determining size of aerosol particles, which apparatus includes means for passing an air stream containing such aerosol through a viewing zone illuminated by an incident light source, the invention calls for a photoelectric tube and optical system positioned to scan said illuminated zone, and amplifier having input and output terminals, and having its input terminal connected to said photoelectric tube, a pulse recorder connected to said amplifier, the improvement which includes first and second potentiometers in series between said amplifier and said pulse recorder, each of said potentiometers comprising a resistance element with input terminal at one end and a ground terminal at the other end, a sliding contact with said resistance element constituting an output terminal said first potentiometer having output terminal of said amplifier and having its output terminal connected to the input terminal of said second potentiometer, the input and output terminals of said second potentiometer being connected to the input terminals of said pulse recorder.

"Tini-Mist," a self-contained purse-size dispenser for aerosol fragrances, introduced by Risdon Manufacturing Co., Naugatuck, Conn., is available in gold lacquered and polished aluminum and stainless steel, silk screened aluminum, and clear or enameled glass. Unit, equipped with a Risdon metering valve, has approximately 200 bursts in an aluminum or stainless steel container and about 150 bursts in one of glass. All containers have flared caps of polished, gold lacquered aluminum.

★

VCA Goes Public

A public offering of 145,000 shares of common stock, at $7 per share, was made Sept. 27th by Valve Corp. of America, Bridgeport, Conn. Of the total amount, 75,000 shares were offered by the company and 70,000 shares were offered from "selling stockholders."

Proceeds from the sale of the firm's stock will be used to pay notes issued for the purchase of capital equipment and to reduce bank borrowings, with about $350,000 to be added to working capital.

The firm has engaged in the manufacture and sale of valves and components for aerosol products, and the furnishing of related packaging services since its formation in 1953. It lists among its customers: Avon Products, Inc., New York; Aerosol Techniques, Inc., Bridgeport, Conn.; Boyle-Midway, Inc., a subsidiary of American Home Products Corp., New York; Revlon, Inc., New York; Fuller Brush Co., East Hartford, Conn.; Simoniz Co., Chicago; and Stanley Home Products Corp., Westfield, Mass.

Net sales for the six months ended April 30th were $1,678,462, and net income for the period was $92,004.

★

U. S. I. Names Murray

John N. Murray has been named Minneapolis district sales manager for U. S. Industrial Chemicals Co., a division of National Distillers and Chemical Corp., New York, it was announced recently. He succeeds William J. Brett who announced his retirement on July 1.

Propellant Hearing

(*From Page* 113)

der watchful supervision, being stored in a warehouse for several days or weeks, and then starting to leak rapidly during shipment," Mr. Johnsen concluded.

Summing up the CSMA's case against the ban on flammable propellants in aerosol products, Mr. Brown pointed out that "the flammability hazard of an aerosol product cannot be measured solely from the flash point of the propellant." In support of this principle he cited its adoption by the ICC, and the Department of Health, Education, and Welfare. He also informed the Fire Department that the test methods in use by the I.C.C., and the Department of Health, Education, and Welfare have been used by the U.S. Department of Agriculture for the enforcement of the Federal Insecticide, Rodenticide, and Fungicide Act, the State of Connecticut in its regulations for the enforcement of the Connecticut Hazardous Substances Labeling Act and other regulatory agencies.

Mr. Brown also quoted from the Regulations of HEW in which the hazard of a product is determined by the mixture of the ingredients rather than a single substance in the mixture.

In further support of the case for using hydrocarbon propellants, Mr. Brown submitted the results of a CSMA survey of products using liquified gases as propellants in aerosol products. According to Mr. Brown, over 250 million aerosol units containing flammable gases have been produced and distributed in the past seven years. There were "no reported accidents in the handling, storage or use of aerosols which could be attributed to the use or presence of flammable gas propellants." Mr. Brown admitted that there are "potential hazards in the storage, handling or use of any aerosol product, but in practice these hazards have failed to materialize."

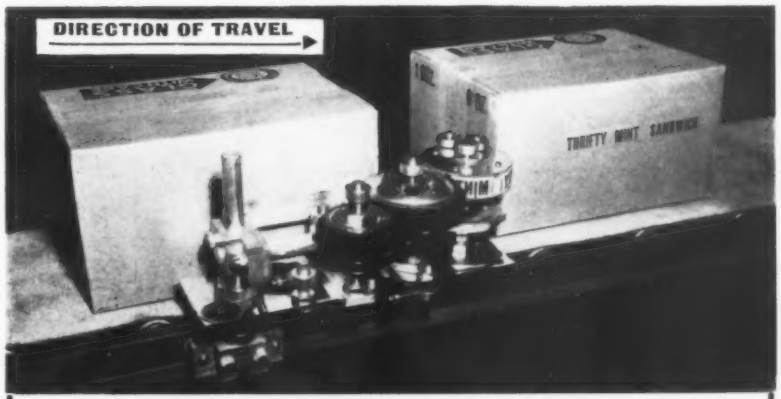
Mr. Brown further pointed out that "many products have been sold for years and years in New York City which contain greater amounts of hydrocarbon than do aerosols which have a liquified petroleum gas as a propellant." These include lighter fluid and capsules containing butane for use in cigarette lighters and butane for use as fuel for cook stoves.

Statements from insurance companies and major marketers showing there is no different rating for insurance purposes for product liability for aerosol products on the basis of the type of propellant used were submitted for the record by Mr. Brown. Statements showing the quantities of aerosol containers that have been stored without incident in warehouses containing as high as 300,000 aerosol units with hydrocarbon propellants were also submitted by Mr. Brown.

Also cited by Mr. Brown was a proceeding in a Federal District Court in Baltimore that fire departments in Boston, Philadelphia, Cleveland, Chicago and Los Angeles and other cities have had evidence shown to them "by persons who attempted to persuade those fire departments to prohibit the sale of aerosol products containing flammable gas propellants for competitive reasons." According to Mr. Brown, "after investigation, hearings and review, not one public authority in the United States has prohibited the use of hydrocarbon propellants in aerosol products."

Theodore Heilig, president of Regal Chemical Corp., Brooklyn contract aerosol loader, read a statement over the signature of W. George Parks, Ph.D., chairman of the department of chemistry at the University of Rhode Island. Dr. Parks, who is president and treasurer of National Laboratories for Research and Testing, Inc., Pawtucket, R.I., pointed out that

(*Continued on Page* 212)



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Surfact-Co now supplies
the detergent industry's basic surfactants
at the lowest price
per pound of active ingredient.
Our detergent scientists
help you select the right
surfactant at the right cost
for your formulation.
Tech Service includes product development,
formulation and production assists
— until the problem is solved.
What's your application,
what's the problem?
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EIGHT
LEADING SURFACTANTS
BY SURFACT-CO

WRITE FOR TECH BULLETIN AND FORMULATION SUGGESTIONS

PRODUCT	USE ASPECTS	APPLICATIONS
DODECYL BENZENE SULFONIC ACID (Surco DDBSA)	Ammonia or diethanolamine neutralization. Dry Soda Ash-Sodium Tripolyphosphate neutralization	Kerosene degreaser and cleaner • Floor cleaner-coupling agent. Low cost car shampoos. Pourable gel concentrate
AMMONIUM NONYL PHENOXYETHYLENE SULFATE (Surco 57)	Auxiliary foamer and detergent in liquid preparations	Dish detergents • car shampoos
DESALTED SODIUM ALKYL ARYL SULFONATE (Surco SF42M)	Contains minimum salt in ethyl alcohol solution	Glass rinses • Liquid dish detergents • General synthetic cleaner • Oven, exhaust fan, deep fry cleaner • Clarifying agent for ammonium alkyl aryl sulfonate solutions
LAURIC DIETHANOLAMIDE (Surco Stabilizer #2)	Standard foam stabilizer and thickener	Low cost shampoos or bubble baths • Liquid dish detergents • Lotion-type shampoo concentrates
COCONUT DIETHANOLAMIDE (Surco Coconut Condensate)	Predominantly non-ionic. Effective with cationics	Base material in high-active floor cleaner concentrates • Glass cleaner and rinse • Thickener
MIXED FATTY ACID DIETHANOLAMIDE CONDENSATE (Surfact-Co MA)	Can formulate without added coupling agent. Hard water resistance • Copious but unstable foam for rinsing ease in suggested formulations	General purpose cleaners • Wax strippers • High viscosity germicidal cleaners • High viscosity synthetic soap cleaners • Lotion-type floor cleaners
LAURYL SULFATES (Surco SLS, Surco AM-LS)	Derived from high lauryl content alcohol. Improved foaming and detergency	Rug and upholstery shampoos • Hair shampoos, clear and lotionized.
SURCO HDL BASE	Can be formulated with large quantities of Tetrapotassium Pyrophosphate for heavy-duty liquid detergents	Laundry detergent • dish detergent

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Production....

EQUIPMENT · MATERIALS · PROCESSING

Plant Safety Check List

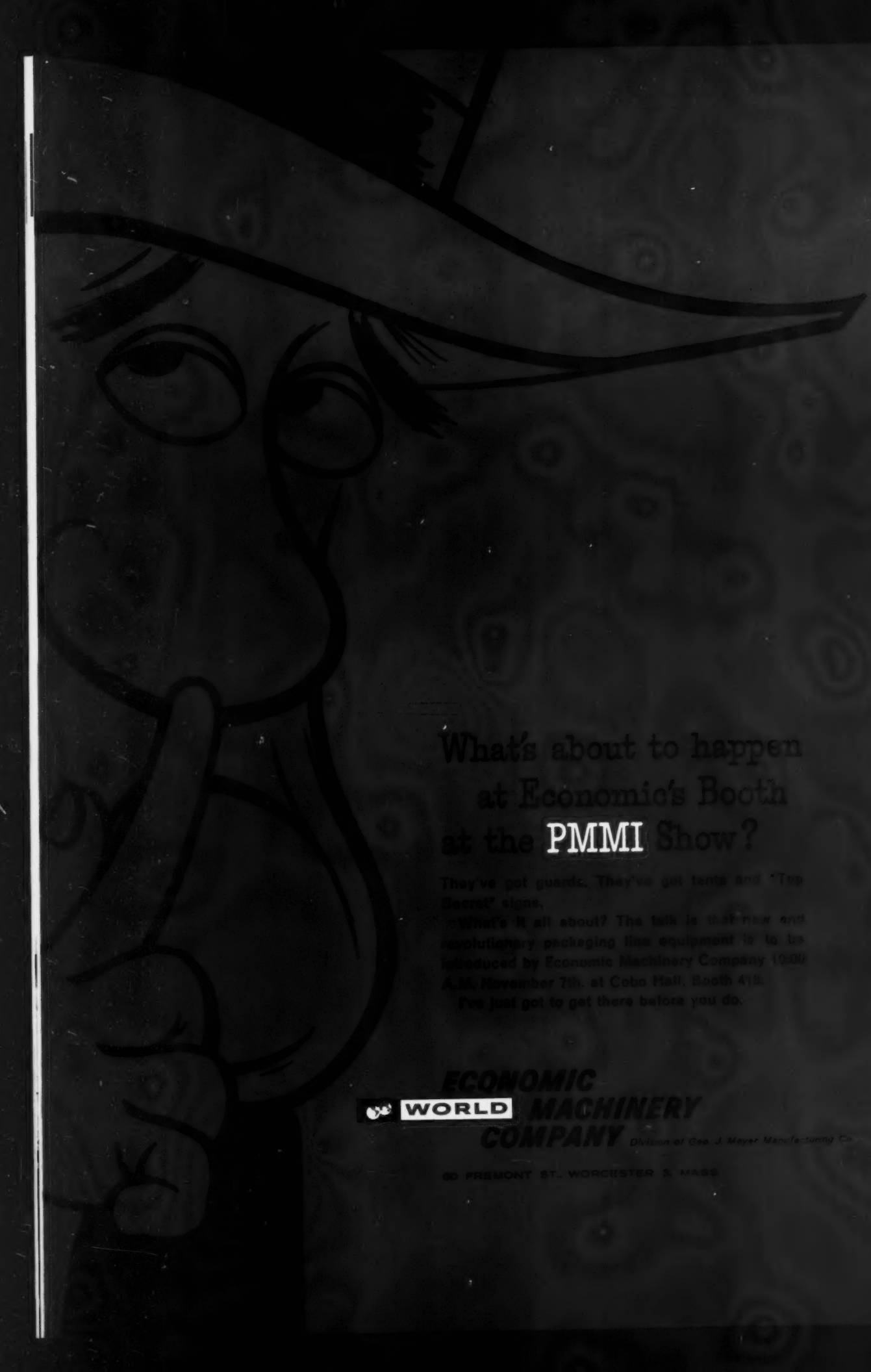
Soap Plant Observer

New Patents

Book Reviews

Bulletins and Equipment

Plant safety is a high priority matter at all manufacturing locations of Procter & Gamble Co., Cincinnati. One of the key responsibilities of the safety engineer (left) at P&G plant shown here is safety education of employees, to create awareness of safe practices and encourage use of modern safety equipment. For details on plant safety management see page 173.



What's about to happen at Economic's Booth at the PMMI Show?

They've got guards. They've got tents and "Top Secret" signs.

What's it all about? The talk is that new and revolutionary packaging line equipment is to be introduced by Economic Machinery Company 10:00 A.M. November 7th. at Cobo Hall, Booth 418.

I've just got to get there before you do.

WORLD

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Plant Safety Check List

Answers to 50 searching questions will serve to analyse safety status of your chemical specialties plant, pin-point the trouble spots, suggest remedial measures

By Jack E. Bedford,
Armstrong College,
Berkeley, Calif.

PLANT safety is of paramount concern to all industry. The chemical specialties plant is no exception. Increased labor turnover, added training expenses, higher production cost, and lower unit production are just part of the damage suffered by the manufacturer whenever there is an accident. The employee involved suffers physical pain, loss of working hours, medical expenses, and — in addition — may develop a fear of returning to work in the plant where the accident occurred.

Industry-wide figures reveal that more than 380 million production days were lost during the past year by industrial accidents. Broken down to a per man basis, it means that there was an average of eight days lost for each worker. Thus, a chemical specialties plant employing only 100 workers will lose on the average 800 days of production time during the year through accidents.

Some managements have started safety programs and then disbanded them because they could not see that the expense involved in keeping the plan in operation was worthwhile. Other organizations are considering dropping their safety programs, because the schemes do not operate efficiently.

Before completely discarding the safety program or before starting an accident prevention program for your plant, we suggest a review of the check lists presented below. Check each statement that you can honestly answer with an unqualified "yes" . . . multiply the number of checks by two when completed . . . and you will have your safety score.

Safety Organization

- Has top management been completely sold on the value of a safety program? (Unless this question can be answered by a definite "yes," the balance of these questions will have little value in reducing the accident rate in your chemical plant)
- Have you the complete cooperation of the middle-management staff in your plant for the safety program?
- Have you integrated your safety program as a definite part of the production activity in your plant?
- Have you appointed a safety director or selected a safety committee to handle the details of the safety program? (Both of these plans are considered in the following sections of this check list.)
- Has your safety program been set up so there is an easy flow of communications both up and down the organization channels?
- Are regular top level conferences scheduled to consider the progress of the safety program in your chemical plant?

Most chemical specialties plants appoint either a safety director or a safety committee to insure a minimum accident rate. Assuming your program is headed by a safety director, you will want to consider these questions:

Safety Director

- Have you selected one person (full or part-time) to handle the work of the safety director?
- Have you given this safety director adequate authority to direct and coordinate the safety program?
- Is the safety director responsible for the success of your plant's safety program?
- Does the safety director know the men in the plant and have

Versatile

"SUBMERGED FILLING STEM"

Designed by

KIEFER

TO ELIMINATE FOAM

The perfect "Submerged Filling Stem", available on KIEFER Vacuum and KIEFER Pressure-Vacuum Filling Machines, has been proved in sustained production runs by some of the largest operators. One company used the very words "FANTASTIC ACCURACY."

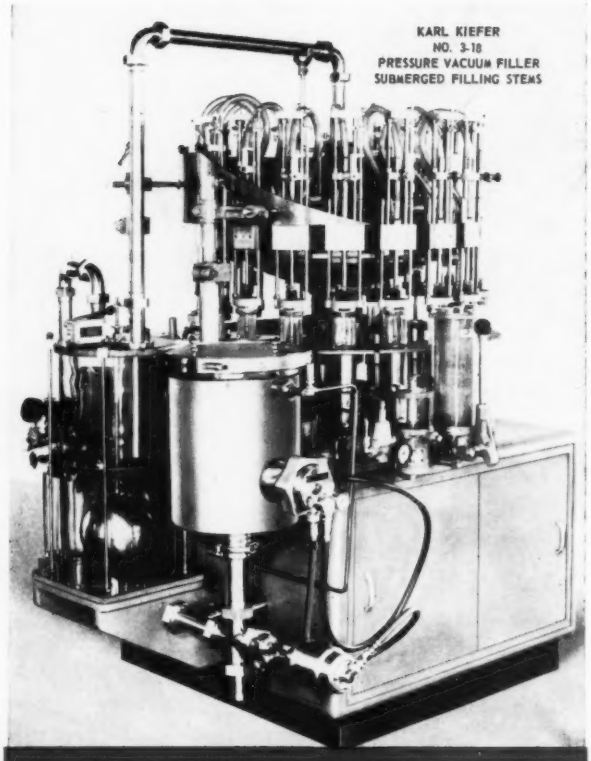
On the KIEFER Pressure Vacuum Filler, the vacuum requirement is definitely reduced, as it is compensated by pressure on the product delivery. Increased speed, 60% to 70% is realized due to the "pressure assist" and the lack of either air entrainment or foam.

"PIN-POINT"

KIEFER "Pin-Point" Submerged Filling Stems also available on all sizes of KIEFER Rotary Filling Machines. They are the MIRACLE PERFORMERS on plastics and gallons, too, WITHOUT use of SEALS.

A KIEFER Filling Machine is available for YOUR exact needs.

Showing the KARL KIEFER "PIN-POINT" filling stem assembly with SUBMERGING ATTACHMENT.→



KARL KIEFER NO. 3-18 PRESSURE VACUUM FILLER SUBMERGED FILLING STEMS

You can recognize — RIGHT CENTER is the single shot lubrication pumping system — MIDDLE REAR is the product control supply tank — LEFT REAR is the fully automatic overflow receptacle.

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an understanding of their problems?

Is the safety director able to delegate authority and responsibility for the various phases of the safety program?

Is the safety director able to contact and deal with the workers in a helpful and satisfactory manner?

Do you take quick action on the recommendations of your safety director?

Safety Committee

If you have set up a safety committee in your plant, the following questions regarding the committee and its activities are of concern to you:

Is your safety committee composed of both workers and supervisors?

Do you have some plan for adding new people to your safety committee periodically?

Does your safety committee determine standards for safeguarding equipment and machinery?

Does the safety committee formulate and check on the observance of safety rules in your chemical plant?

Does the safety committee investigate all accidents and make recommendations for the elimination of the hazard?

Does the safety committee review safety suggestions and pass on their practical application?

Do you take action on the recommendations made by your safety committee?

Safety Training

Have all workers in the plant been informed of what accidents mean to them personally both in a physical and a financial sense?

Do the employees understand the cost of accidents to the plant and how this affects their earnings and their security?

Have the employees been instructed in the safety methods of performing their assignments in the plant?

After the initial safety instruction, are the employees asked to perform the task in the safe way?

While the employee is performing the task in training, does the trainer (safety director or foreman) check to be sure it is completed safely?

Have you set up some system of periodic checkup on the safety training on a departmental level?

Are the workers encouraged to suggest ways and means of preventing accidents in their departments?

Are regular conferences on safety conducted on the departmental level?

Safety Reports

Do you have a system of safety reports that keeps you up-to-date on the safety status of your chemical specialties plant?

Do you require a periodic report from each supervisor describing conditions in his department that need safeguarding to avoid future accidents?

Do you follow up safety reports with inspection tours to check on all danger spots reported?

Do you have the supervisor reporting these unsafe conditions accompany you on this tour of inspection?

Do you correct the most serious conditions reported on the safety reports first, even though they require a larger expenditure?

Accident Reports

Do you receive an accident report every time there is any type of accident in your plant?

Do your accident reports pin point the location in the plant where the accident took place?

Do your accident reports indicate whether employees of one age group or sex have more accidents than those of another?

Do your accident reports indicate which shift has the largest percentage of accidents?

Do you know the cause of the largest percentage of your plant's accidents?

Have you made an accident report analysis for the past three or four years to determine a pattern of accidents for your chemical specialties plant?

Safety Stimulation

Have you held a safety contest or safety drawing within the past year?

Do you give some type of reward to employees with a good safety record?

Do you use signs, posters and slogans to keep your employees conscious of safety all the time?

Do you give local publicity to your chemical plant's safety program and record?

Do you recognize individual safety performance on your bulletin boards or in your company magazine?

Have you considered a program of promoting home safety for its carry-through value in your plant?

Have you considered a program of personal letters to your employees who have worked without an accident for prolonged periods of time?

Safety of Equipment

When considering new plant equipment, do you always consider the safety factors before making a decision?

When making any change in production, do you investigate any danger of accidents connected with this change?

Do you provide your employees with the latest in personal safety equipment for their jobs?

Do you check each issue of your business magazine for the latest ideas on safer equipment and supplies?

G. MAZZONI S.p.A., BUSTO ARSIZIO, Casella Postale 421 (Italy)

Continuous and Automatic Saponification Plant For Fatty Acids.

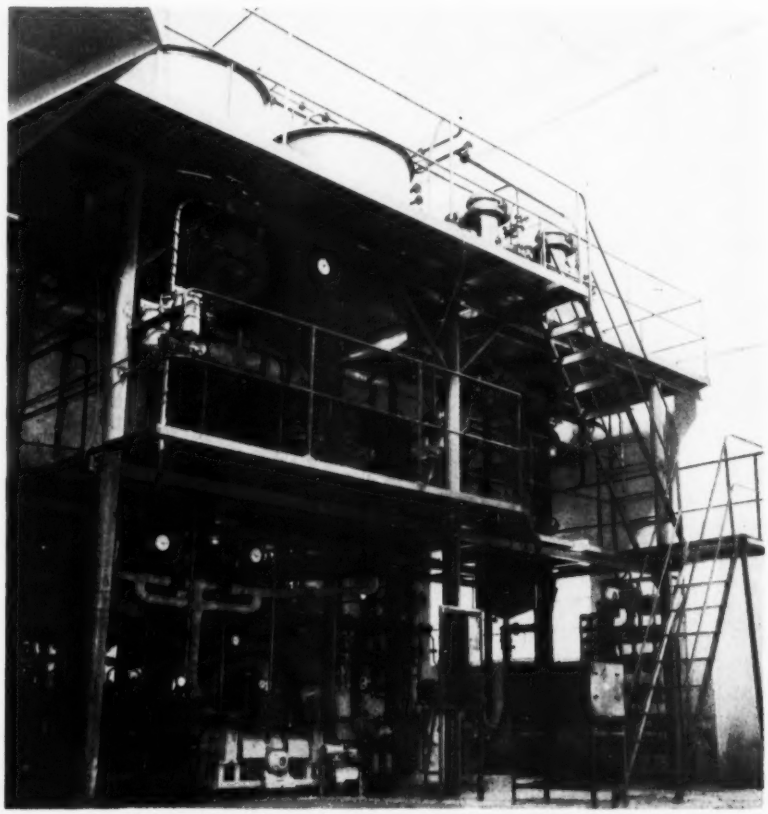
Production capacities ranging between 500 and 6,000 Kilograms per hour

The tests proved that the plant operates on a good principle.
They also proved that you fully master this continuous Saponification plant either under mechanical point of view or the controls technique.

Friedrich Steinfels
Switzerland - 21/12/1960

This plant is giving us the required fatty acid content in the neat soap. Neat soap for both toilet and laundry soap are both in good result. All mechanical parts are running in good order. Production rate are all in accordance to your specification.

Pyung Hwa Soap Mfg. Co. Ltd.
Korea - 31/5/1960



General view of the continuous and automatic saponification plant for fatty acids.

Characteristics;

Automatic control of free caustic in soap with an accuracy of ± 0.01 %

Very accurate control of the sodium chloride content in soap from zero to any required value

Maximum percentage of unsaponified saponifiable matter 0.05 %

Utilities required for 1,000 Kgs. of soap 62 — 63 % fatty acids:

Steam at 2-3 Kgs. sq. cm.	:	65-70 Kgs.
Electricity	:	10-12 KWh.
Labor	:	1 man.

OUR MANUFACTURING PROGRAM INCLUDES:

Plants for Cooling and Drying all types of soap
Continuous and Automatic toilet soap lines
Refining vacuum plodders type DUPLEX and TRIPLEX
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Automatic soap stamping machines for standard and capacity molds

Continuous neutral fat saponification plants.
Continuous sulphonating plants and spray driers for synthetic detergents
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Plants for general chemical industry

Our technical staff are at your service to help you solve any problem concerning the manufacture of your soap.

Please ask for our technical literature and bulletins.

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soap plant observer

By Willis J. Beach,
Technical Service Department,
Sugar Beet Products Co.

THE subject of patents came up in an informal discussion group at a recent professional meeting. The author received the impression that the average small soaper and chemical specialties maker shows a surprising lack of knowledge about patents. Although various aspects of this subject have been presented in this publication in the past, some of the basics of patent law seem worth reviewing.

First, people ask why they should be expected to disclose all pertinent information when they make application for a patent. The reason lies in the basic intent of the patent law, which is to stimulate invention rather than protect monopoly. Consequently, the law requires that the invention be fully described and its novelty explained in detail in order to enable the public to use the invention *after expiration of the patent.*

There are six classes of inventions that are patentable: A process, a composition of matter, a machine, a manufactured article or device, a plant, and a design. Only the first two are of immediate importance in our field and this review will be confined to these two classes.

A "process" means a procedure, art or method and it includes the new use of a known process, machine, manufactured article, or composition of matter. Such processes generally have to do with the application of physical laws, such as chemical action, heat, electricity or other force to produce a change in matter; or with mechanical steps or transactions performed manually or automatically.

A "composition of matter" is a combination of various ingredients resulting in the perfomance of a new function. The composition may result from simple mixture or from chemical action.

A patentable invention must be new and useful, even if it is only an improvement of some old process, method or composition. The intent of the patent law to stimulate invention and not simply to protect monopoly would *not* be carried out if the applicant were to be granted a patent on something the public has previously acquired by knowledge, use or publication.

It then follows that a valid patent cannot be obtained for an invention if:—

1) The inventor fails to file an application for a patent in this country within a year of the time he first filed an application for a patent in a foreign country;
2) The invention is put into public use by the inventor, or with his permission, and he fails to make application within a year;
3) The inventor places the invention on sale in this country and lets one year pass before applying for a patent;
4) The inventor or anyone discloses the invention in any printed publication and lets one year pass before applying for a patent in this country.

The question often comes up, "Is the new use of old material patentable?" It should be realized from the above that a patent is not granted simply on a new "use," although the law requires that a process, product, or composition be useful. This concept is one of the principal stumbling blocks among management people considering patents. Tom Cifelli offered an explanation of this some years ago (*Drug & Cos. Ind.*, April, 1957), and we quote from his article:

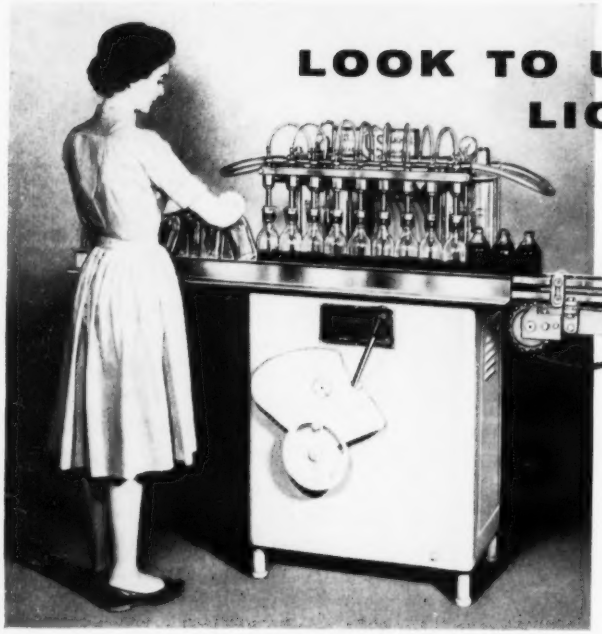
"All we need to do is ask ourselves whether there is something novel in the process or product . . . We (are) dealing with a situation where all ingredients are old . . . In many cases, process protection can be obtained if it can be shown that the active ingredient, for example, was not employed in a particular type of composition before."

To illustrate this statement, Mr. Cifelli suggested that a compound used as a froth flotation agent might be patentable as a therapeutic agent if one can establish in the composition of the agent the addition of at least one other material essential to the new use.

In discussing patents with the group mentioned above a number of statements and questions were brought up which are of general interest. The writer reviewed these with a patent lawyer friend and reports his observations:

The government stands back of my patents so what information

LOOK TO U.S. FOR EVERY LIQUID FILLING NEED



- *Fully Automatic*
- *Semi Automatic*
- *Hand Fillers*

YOU CAN spark your entire packaging operation with the *right filler*. Anything short of that can snarl your packaging pace. With a half century of experience in liquid filling, our engineers can specify filling procedure that will head your packaging operation most economically. Tell us your requirements, our recommendations will not obligate you. Please send sample of product, a dozen containers of each size to be filled and advise desired filling rate per minute, hour or day. Address our home office.

US PACKAGING ENGINEERS

Multiple, Semi Automatic

MODEL B-49 STRAIGHTLINE VACUUM FILLER
For liquids and semi-liquids. Fills 4 to 9 containers simultaneously; up to 50 small containers p/m. Lever engages and disengages filling stems, otherwise operation is automatic. Adjustable for container heights up to 14″; miniature and standard bottle finishes, gallon F-style cans, wide mouth jars. Stainless steel is standard; plastic for filling special solutions on order. Discharge conveyor optional. Special requirements engineered. For quotation, please state requirements or write for "Bulletin B-49".

Steady Filling

MODEL B-2
VACUUM FILLER
Fills 2 containers while 2 filled containers are being removed and 2 empties loaded. Thus, filling is continuous. Handles containers up to 4¼″ dia., up to 13″ hi. Stainless steel construction. Plastic available. Will fill directly from drum or supply container on the floor. Portable. Write for "Bulletin B-2".

For All Liquids All Containers

Also for foamy products that do not permit agitation. Stainless steel filling tubes. Fill controlled automatically. Float regulates product supply in glass lined tank. No power required. Write for "Siphon Bulletin".

E-Z Air Cleaner

Fast growing importance of air cleaning new containers makes this the ideal companion unit to semi-automatic fillers. Write for "E-Z Bulletin".

HAND FILLER. A precision unit of high quality for efficient hand filling. Write for "Hand Filler Bulletin".

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do I need? Actually the government does not stand back of or guarantee any patent. The only thing you get in a patent that you did not have before is the right to stop others from making, using or selling the invention for a period of 17 years from the issue date if, of course, the patent is valid.

Does the Patent Office grant invalid patents? The Office does not knowingly or intentionally grant invalid patents. Patents are granted only after a very careful search of the patent files. Thanks to modern automated methods of sorting information, most patents granted today are, in fact, valid. Sometimes, however, the Patent Office grants patents that are invalid, but most cases of invalidity relate to one or more claims to the patent and this may actually be the fault of the patentee.

How can I find out if my patent is valid? Actually, validity can be determined only by the courts. A good patent attorney, however, can give you an opinion on validity.

How can I find out if my patented product may be infringing some other patent? Again, consult a good patent attorney. He may be able to assure you that you are reasonably safe from infringement; or, if there happens to be a close question, he will give you his opinion. If the other party brings suit against you, you will have the opportunity of determining the accuracy of this opinion.

How can I select a competent patent attorney? Consult your trade association, firms doing business with you, or the editor of this publication.

Consultants active in the chemical specialties field are also in a position to help in patent matters. Although not professionals in patent law, the consultant usually has many years of experience dealing with new processes and products in our industry. Generally, he has a good grasp of the patent situation and is qualified particularly to supply information about existing patents. For example, a patent service is available from Consultant John McCutcheon, Morristown, N. J. This service claims to give full information on an average of some 300 patents yearly (both U. S. and foreign patents translated) in the soap and detergent field. This system makes use of coded abstract cards which are punched in the single hole McBee system.

Another international patent documentation service is that of Inco, 133 Haringkade, The Hague, Holland. At intervals during the year, this service furnishes lists of patents for which one may subscribe at a fee. Individual patents on the list are available from Inco at a nominal price. Delivery time is six to eight weeks. In addition to U. S. patents, the service provides patents from western European countries, but the foreign patents are in their original language.

In next month's column we expect to have the answers to a few more basic questions pertaining to patents.

—★—

Expiring Patents Listed

A digest of expiring patents is being published on a monthly basis by Louis Leaman, 26 Columbia Street, Brookline 46, Mass. Started last May, the service covers each month patents in the pharmaceutical and allied fields due to expire in the corresponding month, *one year later.*

Germicides, soaps and detergents, insecticides and insect repellents, cosmetics and essential oils are included among the "allied products." Each patent is summarized in concise clear terms. Both products and processes are described. A cumulative index of assignees, appended each month, further adds to the usefulness of this service.

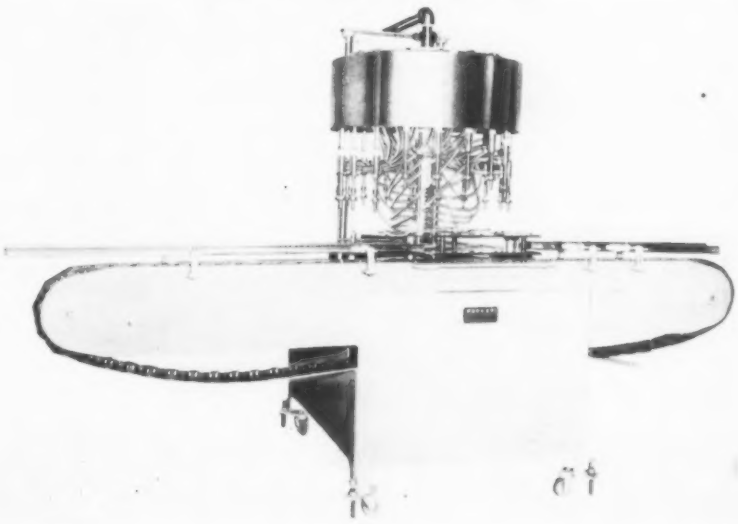
In the issue from May to Aug. 1961, 270 patents have been reported, with annual coverage expected to run to about 600 patent summaries.

—★—

New Liquid Rotary Filler

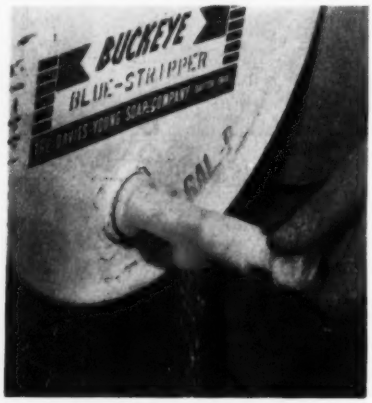
Packer Machinery Corp., Brooklyn, recently announced its "Model PR-A," a rotary filler featuring an all-around conveyor, positive cam action and one star wheel. The all around conveyor (below) eliminates transfer problems, since containers being filled never leave the conveyor. A disc on the discharge side guides the filled containers out so that only one star wheel is required, the company states. This also reduces the cost of change parts and cuts changeover time, it was noted. The unit is available for vacuum, gravity, vacuum-gravity or pressure operation in 12, 18, 24, 30 and 36 spouts.

Packer Machinery's new rotary filler.



New Plastic Drum Faucet

A polyethylene drum faucet which can dispense chemicals, detergents and waxes safely, has been introduced by Rieke Metal Products Corp., Auburn, Ind. Constructed from "Alathon" polyethylene resin supplied by E. I. du Pont de Nemours & Co., Wilmington, Del., the faucet will not break or crack during normal use, the company states. Said to be priced at about half the cost of similar metal faucets, the plastic unit adjusts easily to control the flow of liquids from a full flow to a trickle, it is claimed.



New Rieke drum faucet

Features include a lip on the head which contacts a ridge on the faucet body to prevent over-tightening, and a molded skirt at the base allowing the faucet to be tightened firmly in any position on the drum. The faucet may be wired to the outside of a drum or it may be shipped inside the container holding the drum.

—★—

Spray Nozzle Bulletin

A new bulletin, "AutoJet Automatic Spray Nozzles," for hydraulically atomizing sprays at operating pressures up to 600 psi, has just been issued by Spraying Systems Co., Bellwood, Ill. The folder outlines automatic spray control obtained by an air actuated cylinder; the on-off operation of the nozzle, synchronized with any work feed or production cycle. Nozzles are also offered with automatic clean-out needle and extensions. Interchangeable orifice tips permit selection of flat, hollow cone and full cone spray patterns in a large choice of capacities. A typical installation is schematically illustrated and described along with accessory equipment.

—★—

Amorphous Polypropylene

Availability in sample quantities of amorphous polypropylene of low molecular weight has just been announced by Eastman Chemical Products, Inc., 260 Madison Avenue, New York 16. The product comes in two grades: one a tacky elastomer, the other in a consistency similar to a moderately heavy grease.

The material is compatible with a number of waxes and resins, is soluble in most aromatic and aliphatic solvents. The elastomeric type is said to impart flexibility to olefin waxes and resins.

For seven pound samples and detailed description contact Eastman at Kingsport, Tenn.

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Never any oozing at the edges! The perfect "all-round" labelers for your present needs... and all your future expansion into new products...greater production. Label range from "postage stamp" size to 6" wide x 6" long. Containers from ¾" high to 13" high.

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New Heavy Duty Cleaner

A new heavy duty marine and industrial degreasing cleaner has just become available from Penetone Co., Tenafly, N.J. Incorporating solvents, emulsifiers, and wetting agents, the product is suggested for removing oil spills or cleaning industrial areas, motor blocks, storage tanks, and materials handling equipment such as hoists and fork trucks.

Trade-named "Navee '42", the cleaner lends itself to application by tank soaking, wiping, or pressure spraying. It is effective at a wide range of temperatures and concentrations, according to the manufacturer.

Basic ingredients of "Navee '42" are supplied by National Aniline Division of Allied Chemical Corp., 10 Rector Street, New York 6. National offers to supply further details on the product to interested parties.

—★—

New Monsanto Booklet

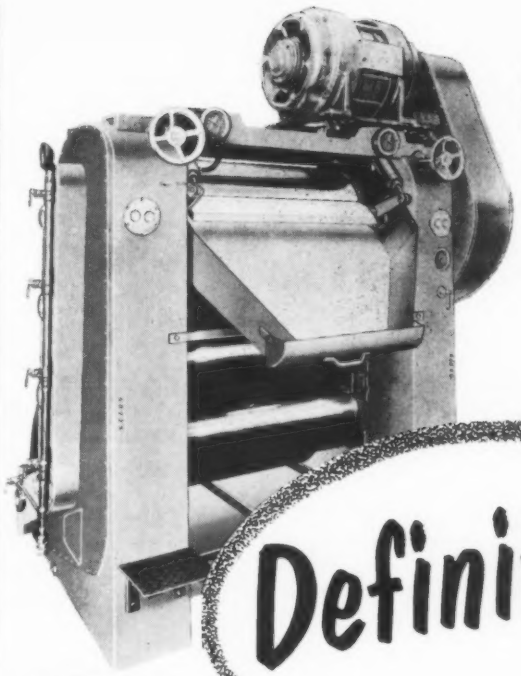
The inorganic chemicals division of Monsanto Chemical Co., St. Louis, is offering a booklet on materials handling methods as related to phosphate products. Various economies resulting from bulk transport and handling are covered. A typical handling is described and a cost and savings case history of an actual installation is given. In addition, the brochure lists equipment needed for such a system, including storage facilities, piping, air venting, conveying and weighing.

—★—

New Release Floor Paint

Resisto Chemical, Inc., Wilmington, Del., has announced the development of a release paint for concrete. "Tar-Dux X-75," developed by the firm's Dri-Dux division, is said to prevent such materials as tar, asphalt and neoprene from adhering to concrete.

"Tar-Dux X-75" paint is an acrylic latex in an aqueous system, which, when applied to concrete, dries in 30 minutes, under normal conditions, it is reported.



The LEHMANN MODEL 651-SV Sight-O-Matic Five-Roll Mill is a money-maker for any soap plant.

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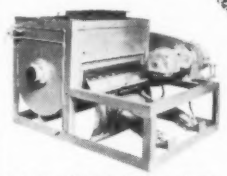
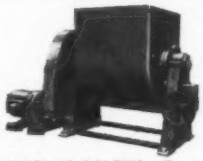


MODEL 40 G-B Bottom Dump Amalgamator.

MODEL 310-P Preliminary Plodder.

MODEL 310-F Finishing Plodder.



MODEL 40 G-Y Tilting Type Amalgamator.

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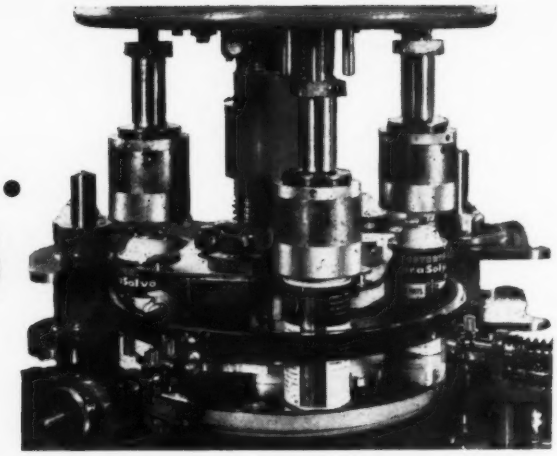

A recent customer reports the new CAPEM Automatic Rotary Crimper for Aerosol Valves delivers more than a million cans without a sign of jaw or plunger wear or misalignment. The crimper assembly holds well within crimping tolerance throughout the entire run.

The machine features a completely mechanical operation . . . no *air* required. During the crimping operation, a mechanical plunger drops over the valve and expands 6 precision tooled segments for crimping contact. When the plunger retracts, the segments snap back into position for positive release of the can *before top pressure is released.* The crimping operation is further protected by Consolidated's built-in accuracy of container handling and centering, with automatic pre-seating of unseated valves.

Crimper jaws are adjustable to provide depth of crimp desired. The machine, with adjustable turret, can be easily set for proper crimp height and top pressure.

The Model C-4-SC, 4-spindle operation shown, will handle any size can with standard 1" valve at speeds of 110 to 120 containers a minute. Faster six and eight spindle machines are available.

For complete information, write Sales Manager

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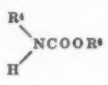
new patents

Listed below are brief abstracts of recently issued patents. Complete copies may be obtained from the publisher of this magazine: — MacNair-Dorland Co., 254 W. 31st Street, New York 1, N. Y. Remit $1.00 for each copy. For orders received from outside of the United States send $1.50 per copy.

No. 2,987,483. Cleaning Composition, patented by Charles Edward Brooker, Drexel Hill, Pa., assignor to Pennsalt Chemicals Corp., Philadelphia. This patent teaches the method of preparing an alkaline cleaning composition which comprises heating 60 to 90 parts by weight of sodium hydroxide which contains 36 to 25% by weight water to a temperature above 148° F. but not exceeding 200° F. to form a molten solution, uniformly dispersing throughout said solution 40 to 10 parts by weight of sodium tripolyphosphate and up to 5 parts by weight of an alkyl aryl sulfonate detergent, and then solidifying the resulting dispersion by cooling to a temperature below 148° F.

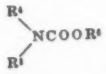
No. 2,990,315. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., N. Y. Synergistic insecticidal compositions are claimed comprising 2-chlorophenyl N-ethyl carbamate and O,O-dimethyl S-(1,2-dicarbethoxyethyl) dithiophosphate, said ingredients being present in the ratio of about 2 parts of said carbamate ester to about 1 part of said dithiophosphate.

No. 2,990,316. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York. This patent teaches the method of killing insects which comprises applying to the insects and their habitat a synergistic insecticidal composition comprising O,O-dimethyl S - (1,2 - dicarbethoxyethyl) dithiophosphate and an organic carbamate having the general formula:



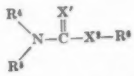
where R^4 is selected from the group consisting of phenyl and furfuryl radicals and R^6 is selected from the group consisting of benzyl, trichloroethyl and 2-ethylhexyl radicals, wherein said components are present in the ratio of about two parts of said carbamate per part of said dithiophosphate.

No. 2,990,317. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York. The method of killing insects is disclosed which comprises applying to the insects and their habitat a synergistic insecticidal composition comprising O,O-dimethyl S-(1,2-dicarbethoxyethyl)-dithiophosphate and an organic carbamate having the general formula



wherein R^4 is selected from the group consisting of methyl, ethyl and n-propyl radicals, R^5 is selected from the group consisting of methyl, ethyl and n-propyl radicals and R^6 is selected from the group consisting of phenyl, 3-chlorophenyl and 4-chlorophenyl radicals, wherein said components are present in the ratio of about 2 parts of said carbamate per part of said dithiophosphate.

No. 2,990,319. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York. The method of killing insects is patented which comprises applying to the insects and their habitat a synergistic insecticidal composition comprising O,O-dimethyl S-(1,2-dicarbethoxyethyl)dithiophosphate and an organic carbamate of the general formula



where R^4 is selected from the group consisting of ethyl and phenyl radicals, R^5 is selected from the group consisting of hydrogen and ethyl radicals, R^6 is selected from the group consisting of pheryl and methylphenyl radicals and X' and X^2 are selected from the group consisting of oxygen and sulfur, and wherein the dithiophosphate and the carbamate are present in the ratio of about two parts of said carbamate per part of said dithiophosphate.

No. 2,990,318. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York. This claim covers synergistic insecticidal compositions comprising O,O-dimethyl S-(1,2-dicarbethoxyethyl)dithiophosphate and isopropyl N-sec.-butyl carbamate, said components being present in the ratio of about 2 parts of said carbamate ester to about 1 part of said dithiophosphate.

No. 2,989,434. Nonionic Surfactant Iodine Composition, patented by Gene A. Brost, Westfield, N. J., Fred Krupin, New York, and Fred E. Woodward, Watchung, N. J., assignors to General Aniline & Film Corp., New York. This patent covers a water soluble germicidal composition comprising a combination of iodine with a mixture of nonionic alkyl phenol-ethylene oxide condensate surface active agents characterized in that the nonionic surface active agents in said composition are a mixture of a water insoluble nonionic alkyl phenol-ethylene oxide condensate surface active agent having an ethylene oxide content of less than 55% by weight and a water soluble nonionic alkyl phenol-ethylene oxide condensate surface active agent having an ethylene oxide content of more than 60% by weight, the ethylene oxide content of said mixture of water insoluble and water soluble nonionic surface active agents being more than 60% by weight of said mixture.

No. 2,990,322. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York. This patent reveals the method of killing insects which comprises applying to the insects and their habitat a synergistic insecticidal composition comprising O,O-diethyl O - (7 - (3-chloro-4-methylcoumaryl)) thiophosphate and 3-chlorophenyl N-isopropylcarbamate, wherein said components are present in the ratio of about five parts of said carbamate per part of said thiophosphate.

No. 2,990,323. Synergistic Insecticidal Compositions, patented by Howard A. Jones and John A. Garman, Baltimore, and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York. The method of killing insects is claimed which comprises applying to the insects and their habitat a synergistic insecticidal composition comprising O,O-dimethyl O-(4-nitrophenyl)thiophosphate and 4-methylumbelliferonyl N-ethylcarbamate, said components being employed in the ratio of about 1 part of said thiophosphate to about 5 parts of said carbamate ester.

Tennessees' New Products

Tennessee Corp., Atlanta, Ga., recently announced three new additions to its line. "Tennesoft 23-59" and "Tennesoft 29-73" are liquid softeners for use on cotton and cotton blended fabrics. Compatibility with a wide range of commonly applied textile auxiliaries is claimed for these products in addition to heat and light stability.

"Sul-Fon-Ate BL Acid," a noncresylic acid mercerizing wetting agent and penetrant is said to be unaffected by concentrated caustic soda at elevated temperatures and by carbon, cotton waxes and starch by-products.

—★—

Hercules Film Booklet

A new, 12 page technical booklet, providing information on the processing of cast polypropylene films, has been published by Hercules Powder Co., Wilmington, Del. "Pro-fax" polypropylene has been approved by the Food and Drug Administration for use in products coming into direct contact with all kinds of food, the company states.

The booklet is divided into four main sections: markets, properties, processing, converting and packaging. Technical data include typical property ranges of "Pro-fax" film and a table which compares competitive films. The processing section includes 40 charts. "Pro-fax" can be processed into films to be handled on conventional packaging equipment designed for polyethylene, and in many instances cellophane equipment can process the films, the company states.

—★—

Low-Foaming Surfactants

A new series of low-foaming nonionic surfactants is now available in commercial quantities from Jefferson Chemical Co., Houston, Tex., it was announced recently. Identified as "Surfonic LF-5," "Surfonic LF-6," and Surfonic LF-7," these are aliphatic alcohol-ethylene oxide adducts which have been modified by termination with a hydrophobic group to reduce foaming, the company states. Foaming action is said to decrease markedly within the series, going from moderate foam for "Surfonic LF-5" to essentially no foam for "Surfonic LF-7."

A new technical bulletin, "Surfonic LF Series of Low-Foaming Nonionic Surfactants," describing chemical and physical characteristics and properties of the new series in detail, may be obtained from the company.

—★—

New Polyethylene Emulsion

A new highly concentrated polyethylene emulsion has been placed on the market by Valchem, Chemical Division of United Merchants & Manufacturers, Inc., New York.

Suitable for use in liquid polishes, textile finishes and other specialties, "Valsof PE-45" is now in production at Valchem's Langley, N.C., plant.

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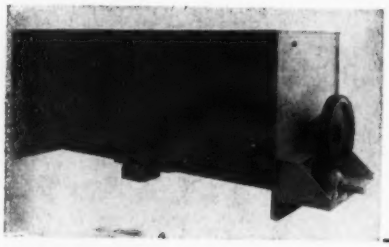

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products and processes

Lanolin In Hair Sprays

Lanolin or its derivatives incorporated in hair spray formulations act as plasticizers; modifiers to increase hydrophobic properties and prevent stickiness in damp atmospheres; or couplers between resin and plasticizer, according to E. W. Clark and G. F. Kitchen, *Soap, Perfumery & Cosmetics,* Aug. 1961, pp. 739-41. The authors cite numerous formulations. Some typical examples are:

	parts/wt
Shellac, bleached, dewaxed, rosin-free	1.50
Polyethyleneglycol 400 monolaurate	0.30
Lanolin (anhydrous)	0.25
Perfume	0.45
Alcohol, anhydrous	37.50
Propellant	40.00

The shellac need not be bleached but must be completely dewaxed for reasons of solubility.

	parts/wt
PVP	5.0
Polyethyleneglycol 400 monolaurate	0.5
Liquid lanolin	0.5
Perfume	1.0
Alcohol, anhydrous	93.0
Propellant	150.0

	Parts/wt
Dimethylhydantoin resin, refined	3.0
PVA resin	15.0
Alcohol soluble lanolin	0.15
Monoethanolamine	2.0
Perfume	0.5
Ethanol	600.0
Propellant	931.0

—★—

Liquid Rust Remover

A liquid rust remover for toilet bowls and other washroom fittings could be based on sulfamic acid, which is currently being used in solid toilet bowl cleaners. An aqueous solution of sulfamic acid could be further improved by addition of an acid-stable synthetic detergent.

Such a product could be marketed in suitable plastic bottles fitted with a finely perforated top. This type of formulation would probably be outside the scope of regulations governing the sale of poisonous and corrosive substances. But the formulator is advised to obtain full information for his own protection. *Seifen-Oele-Fette-Wachse,* Aug. 16, 1961, p. 526.

—★—

CSC Methylamines Data

Methylamines, their properties and uses, as well as shipping, handling and storage information are covered in a 64-page book just published by Commercial Solvents Corp., 260 Madison Avenue, New York 16.

Monomethylamine is used in the manufacture of sulfonated amide type detergents and surface active agents. Di- and tri-methylamines serve as intermediates in the synthesis of cationics.

Fungicides, insecticides, and herbicides are other fields of application included in the wide range of uses for methylamines.

—★—

Glycols in Hand Cleaners

Propylene glycol U.S.P. may be added to industrial waterless hand cleaners as a solvent and emollient. A representative formulation is suggested in a technical bulletin published by Jefferson Chemical Co., 1121 Walker Avenue, Houston, Tex.

	parts/wt
Deodorized kerosene	45
Oleic acid	12
"Surfonic N-95" (nonionic by Jefferson)	4
Propylene glycol, U.S.P.	6
Triethanolamine	3.1
Monoethanolamine	1.3
Lanolin	1
Water	50

Procedure: Mix lanolin, oleic acid and kerosene. Dissolve amines, "Surfonic N-95," and propylene glycol in the water. Pour this solution into the kerosene mixture with constant vigorous stirring until a smooth cream results.

—★—

Lithium Hypochlorite

Availability in pilot plant quantities of lithium hypochlorite for use as a dry laundry bleach has just been announced by Lithium Corp. of America, 500 Fifth Avenue, New York 36. Commercial production is scheduled for early 1962.

Claimed to combine the convenience of a dry bleach with the bleaching performance of an inorganic hypochlorite, the new material is said to be stable, readily soluble and calcium free. Available chlorine content is approximately 35 per cent, which can be reduced by dry mixing with an inert filler.

Detailed information on the properties and performance of lithium hypochlorite in this application is available on technical data sheets.

—★—

Anti-Caking Agent

A cationic compound which keeps dry organic and inorganic materials dust-free and free-flowing has just been placed on the market by Armour Industrial Chemical Co., 110 N. Wacker Drive, Chicago 6. Trade-named "Armoflo," it will condition detergents, insecticides, caustic soda, sodium metasilicate, and a host of other materials which tend to dust during processing and to agglomerate in use or storage.

"Armoflo" acts by coating each particle of the products with a monomolecular layer which changes hygroscopic surfaces to hydrophobic. The coating also reduces friction between particle

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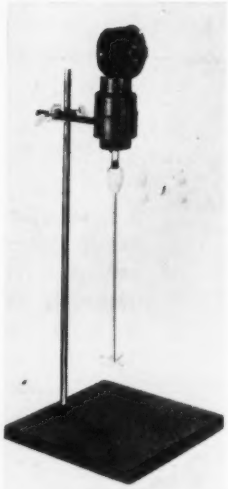

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(*From Page* 185)

surfaces. The conditioning agent is applied at the rate of one pound to a ton of product by spraying, dripping or fogging onto the product while it is tumbling in rolling or blending equipment during the manufacturing process.

An incidental benefit derived from use of these cationics is said to be corrosion inhibition on iron and steel processing equipment.

"Armoflo" agents are said to withstand product heats up to 325°F., to be stable in storage over extended periods, and to function well over a wide range of pH, from acidic to highly alkaline.

—★—

Spray Equipment Bulletin

Spraying Systems Co., Bellwood, Ill., has made available an eight page illustrated bulletin describing its complete line of spray nozzles, spray tips, hand valves, spray guns, foggers and related equipment for pest control application.

—★—

New Polyethylene Liners

A new, flat shaped, polyethylene liner for use with liquids and powders has recently been introduced by Protective Lining Corp., Brooklyn.

"Fil-N-Flo" liner, designed for use with corrugated carton, is said to be one quarter the price of comparable metal and liner containers, and performs all the tasks now handled by the metal type containers.

A major feature of the polyethylene liner is the cost savings realized in shipping and storage of the container, the company states. There is a 40 per cent weight saving in shipping and the liner and cardboard carton will store flat when not in use. Other features listed by the company are ease of pouring, filling and closing.

The spout filler liner can be manufactured to conform to the filling nozzle of the customer's equipment. The special reclosable spout is designed for use with an inexpensive sealing tool supplied by the company. The firm also manufactures a similar liner with a standard size screw cap closure made of plastic. Available in two and one half and five gallon containers, the liners can be fabricated in any size desired.

—★—

Rhodia Cleaner-Germicide

"CL-1301," a new hexachlorophene-based cleaner-germicide-deodorizer, is now being marketed by Rhodia, Inc., New York manufacturer of odor control chemicals. The firm states this is the first successful attempt to incorporate hexachlorophene as a germicide in a cleaner to be used in an aqueous solution.

Said to be odorless, "CL-1301" is claimed effective against staphylococci.

—★—

U.S. Bottlers' Bulletin

"Packaging Line Conveyors" is the title of a new illustrated 10 page booklet just published by the U.S. Bottlers Machinery Co., 4015 North Rockwell Street, Chicago 18.

The brochure describes the U.S. Model LCC link chain type container conveyor system and its various constituents and modifications. An intermediate section of the conveyor is illustrated and general specifications are given as an introduction. Individual sections are devoted to conveyor drives and chain returns, to different angle turns, and to other essential parts of the installation.

A number of floor plans are shown, illustrating different applications of the system's component parts. All parts are standardized for simple installation and minimum maintenance, according to the manufacturer.

U.S. Bottlers Machinery is equipped to render engineering assistance to manufacturers interested in these container conveying systems.

—★—

R & H Quaternaries Data

An eight page brochure describing "Hyamine 1622" and "Hyamine 10X" quaternary ammonium germicides became available last month from Rohm & Haas Co., Washington Square, Philadelphia 5.

Chemical, physical, biological and toxicological properties of these compounds are covered. Information is supplied on their applications in hospital and home laundering, general deodorization, sanitization of restaurants, dairies, and food plants, and in algae control.

"Fil-n-Flo" polyethylene liner, for use with liquids and powders, recently introduced by Protective Lining Corp., Brooklyn. Designed for a corrugated carton, the company claims a 40 per cent weight saving in shipping.

New Insect Control Manual

Velsicol Chemical Corp., Chicago, has just made available a new 43-page reference manual on lawn and garden insect control. The manual, which is offered free to dealers, covers classes of insecticides and their uses; how to apply insecticides; insect damage and identification, and safety procedures.

—★—

New Nichols Office

Nichols Engineering & Research Corp., New York, recently announced the establishment of a spray dryer laboratory at a new office location—1336 North Carolan Ave., Burlingame, Calif. Frank J. Murray, Jr., directs the new facilities, it was reported.

—★—

New MRM Labeler

"Continuous Motion Labeler," recently introduced by MRM Co., Brooklyn, is designed for high speed application of single label panels. The new unit can handle labels of from postage stamp size through six by seven inches, applying them to round, square, oval or rectangular; fractional ounce through gallon containers, the company states. Labelers are conveyor fed and equipped with variable speed drive that can be adjusted for processing 40 to 150 containers per minute, it is reported.

"Jak-Et-Pak" semi-automatic wrap-around multiple packaging machine by the Folding Carton Division of Continental Can Co., New York, handles up to 20 packs of cans, jars, aerosols, or bottles a minute. Only manual operation is folding and placing of carton blank over containers. Unit can be used on any line operating at speeds up to 120 containers a minute. Cartons from 4¼ to 8¼ inches long and 4¼ to 6 inches wide can be handled.

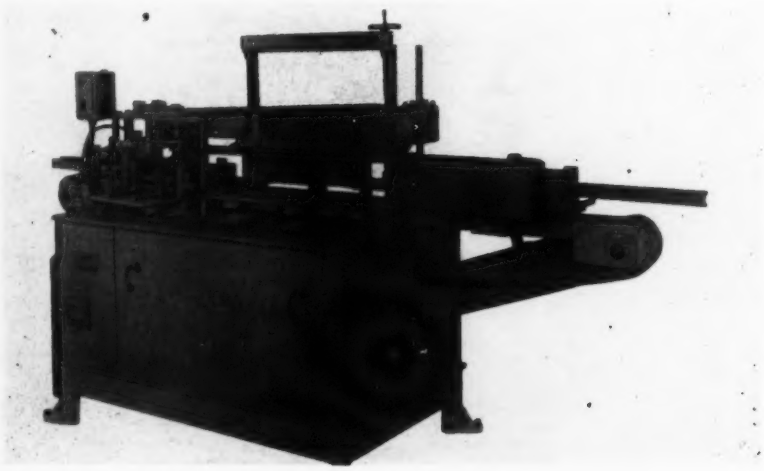
Sonneborn Emulsifiers

"Petromix for the Manufacture of Soluble Oils and Emulsifiable Solvents" is the title of a new seven page technical bulletin, available from Sonneborn Chemical and Refining Corp., 300 Park Ave. South, New York 10. Sonneborn's "Petromix" line consists of four emulsifying agents designed for emulsifying oil or solvents in water. Two of these materials, "Petromix" 10 and 7, are designed for degreasing and cleaning of metal surfaces.

No. 10 is a base for stable emulsions with water and kerosene, Stoddard solvent or mineral spirits; No. 7 emulsifies water and aromatic naphthas or chlorinated hydrocarbons.

The booklet not only describes these products and their applications, but also includes a concise treatise on the principles of emulsion cleaning. Stable emulsion type, two-phase emulsion type, and soak type emulsifiable cleaners are covered as well as their respective fields of usefulness. Cleaning methods are outlined.

"Continuous Motion Labeler," recently introduced by MRM Co., Brooklyn, is designed for high speed application of single panel labels.



—★—

Foam Control Agent

O'Brien Industries, Inc., 95 Dorsa Avenue, Livingston, N.J., recently announced a new foam controlling agent for use in industrial and municipal sewage treatment plants. "O'B-No Foam" is claimed to be "very effective" at low concentrations, to exhibit good retention time and to be economical in use.

bacteriostat

FOR SOAP, SHAMPOO, SHAVING CREAM & COSMETICS

bactericide

FOR HOUSEHOLD PRODUCTS

Vancide® BN

All formulators of household and toilet preparations should explore the addition of Vancide BN to their products. Vancide BN is Disodium 2,2' Thiobis (4,6 dichlorophenoxide). It controls Gram positive and Gram negative bacteria and is unusually effective against fungi. Vancide BN is a fine crystalline powder, white in color, with a slight phenolic odor. Its use is indicated in a variety of products; for example, when added to floor wax, it makes the wax self-sanitizing. Bacteria count is constantly reduced, and residual action is effective as long as the wax is on the floor.

Write for literature and sample today.

R. T. VANDERBILT CO., SPECIALTIES DEPARTMENT
230 PARK AVENUE, NEW YORK 17, N. Y.

( ) Send Technical Data Sheet VBN-1K ( ) Send sample. Application .....

NAME _____ TITLE _____

(Please attach coupon to your letterhead)

Progress with FATTY ACIDS

SANDPAPER LASTS LONGER

A metallic salt of Stearic Acid is being used to increase the life of sandpaper for woodfinishing. Treating the sandpaper with zinc stearate apparently prevents the fine wood particles from building up and prematurely clogging the abrasive surface.

WELL-GROOMED AND OLEIC ACID HELPED

His detergent soap . . . liquid shampoo . . . and hair dressing depend in part on derivatives of Oleic Acid for their effectiveness. Amine soaps of this fatty acid provide good detergent action, act as non-ionic emulsifiers and emollients in many cosmetic formulations.

MORE COLORING FUN

Stearic Acid keeps crayons from going limp in little fingers. It imparts hardness and non-melting characteristics, also serves as a pigment binder. Shades stay true, whites won't yellow.

Below are facts you should know about two Fatty Acids produced by A. Gross. Why not write us for samples and additional information on these and other Fatty Acids we produce. Send for the latest edition of the brochure "Fatty Acids in Modern Industry". Address Dept. S-5.

Specification	GROCO 57 HYDROGENATED TALLOW F.A.	GROCO 2 1°–3°C. TITRE OLEIC ACID
Titre	57°–59°C.	3°C. max.
Titre	134.5°–138°F.	37.4°F. max.
Color 5¼" Lovibond Red*	2.0 max.	1 max.
Color 5¼" Lovibond Yellow*	10 max.	10 max.
Unsaponifiable	0.75% max.	1.5% max.
Saponification Value	204–207	198–203
Acid Value	203–206	197–202
% F.F.A. as Oleic Acid		99 min.
Iodine Value (WIJS)	4–6	95 max.
Refractive Index 50°C. (Av.)		1.4505

* 1" cell for GROCO 2

a. gross & COMPANY

295 MADISON AVENUE • NEW YORK 17, N. Y.

Factory: Newark, New Jersey • Manufacturers Since 1837

News...

PEOPLE · PRODUCTS · PLANTS

Victor Mills, P&G, Retires

* * *

Johnson Joins Ryco

* * *

Huntington Labs to Build

* * *

Sterwin Ups Bozman

H. Gordon Scrowcroft, who has rejoined Lever Brothers Co., New York, as marketing vice-president of the special products division, had been associated with the firm from 1935 to 1950. He is responsible for further development and marketing of several new products.

PILOT
DETERGENTS

CONCENTRATED QUALITY CUTS COSTS

HD-90
90% Minimum active dodecyl benzene sodium sulfonate flake

SP-60
56% Minimum Active dodecyl benzene sodium sulfonate paste

ABS-99
96-98% Dodecyl benzene sulfonic acid

TS-60
60% Triethanolamine sulfonate liquid

MORE DETERGENT SUDS PER DOLLAR

10% HIGHER CONCENTRATION AT EQUAL COST—*That is what these unique, cold-processed sulfonates make immediately available to you. The four products above, as well as the four listed below, offer new possibilities for detergent formulations.*

- **AEL-60** AMMONIUM NONYL PHENOL TETRA ETHOXY SULFATE
- **SEL-60** SODIUM NONYL PHENOL TETRA ETHOXY SULFATE
- **KTS-40** POTASSIUM TOLUENE SULFONATE
- **SXS-90** SODIUM XYLENE SULFONATE FLAKE

FOR SUPERIOR LIGHT-DUTY LIQUIDS with outstanding cleaning, rinsing, foaming and detergency characteristics select either AEL-60 as the 60% Ammonium Salt, or SEL-60 as the 60% Sodium Salt.

FOR SUPERIOR HEAVY-DUTY AND ALL PURPOSE LIQUIDS with maximum flexibility in your formulation specify either KTS-40 as the 40% Potassium Salt, or SXS-90 as the 90% Sodium Salt of Xylene Sulfonate (dry flake). Both of these Pilot Products act as solubilizers to bind organic sulfonates and alkaline builders in stable, clear detergent solutions.

COLD SULFONATION IS THE DIFFERENCE: Pilot cold processing—conducted at below freezing temperatures—gives uniform combinations, complete reaction, and preserves the optimum surface active structure. As a result, Pilot high organic concentration and low sulfate properties *eliminate filtering;* give liquids the highest sudsing and cleaning powers obtainable.

Samples for your formulation available on request. Write today.

LEADS THE WAY TO BETTER PRODUCTS
PILOT

PILOT *Chemical Company of California*

P.O. BOX 22130 • LOS ANGELES 22

Basic Processors of Hydrocarbons for
Sulfonate Flake
Sulfonate Liquids
Sulfonic Concentrates

NEWS

Colgate Appoints Two

Appointment of Kenneth F. Browning as general product manager of the household products division of Colgate-Palmolive Co., New York, was announced recently. Prior to joining Colgate Mr. Browning was in charge of the sales and advertising of all products of the cereals division of Quaker Oats Co., Chicago.

Kenneth Browning

At Colgate, Mr. Browning is in charge of the preparation and implementation of marketing plans and programs for all products of the household division, with the exception of new products, it was reported.

It was also announced that William T. Eldridge has been named manager of new products for the household products division. He was formerly associate general product manager, in charge of new products for the household products division.

—★—

Texize Directors Meet

The board of directors of Texize Chemicals, Inc., Greenville, S. C., at a meeting held Sept. 18, elected Frederick T. Lense, Texize technical director, vice-president in charge of research and development. The meeting, the first to be held since the merging of the firm with Hood Chemicals, Inc., Ardmore, Pa., Aug. 31, was attended by three new directors, including John H. Rosfeld, former president of Hood who is now a vice-president of Texize. Combined sales of the companies are expected to exceed 22 million dollars in 1961, it was reported.

—★—

Lever Elects Scowcroft

Election of H. Gordon Scowcroft (see cut on page 159) as marketing vice-president of the special products division of Lever Brothers Co., New York, was announced recently. He is responsible for the further development and marketing of several new products.

Mr. Scowcroft, formerly marketing vice-president of the United Fruit Co., New York, had been associated with Lever from 1936 to 1950, his last position having been manager of marketing research.

—★—

Samuel Sauber Dies

Samuel Sauber, 68, retired sales manager for Renuzit Home Products Co., Philadelphia, died Sept. 15, at his home in that city, following a short illness.

Victor Mills-P&G-Retires

Victor Mills, director of exploratory development division of Procter & Gamble Co., Cincinnati, since 1955, retired Sept. 1, after 35 years of service with the company. He has been succeeded by Robert E. Hall who joined P&G in 1947.

Procter & Gamble's method of continuous soapmaking was developed and patented under Mr. Mill's direction in the 1930's, making it possible to process soap from raw fats to finished products in hours rather than days, as required by batch methods. The process was built around a stainless steel tube instead of the two-story-high soap kettles. It reversed the traditional process by removing glycerin from the fat before converting fatty acids to soap by simple neutralization with alkali. The result was soap of a higher quality and uniformity, the company states.

In 1937, Mr. Mills was named head of process development for the company, and in 1955 set up the exploratory development division. In 1957 he was made responsible for product development in P&G's new paper products organization. He was succeeded in this position by Harry Tecklenburg in 1960.

Victor Mills

Robert E. Hall

CSMA Midwestern Golf Tournment

L. B. Drell, Aeropak, Inc., Chicago, topped the 120 participants at the Chemical Specialties Manufacturers Association's midwestern golf tournament held Sept. 19, at Itasca Country Club, Itasca, Ill. The low gross winner was presented the CSMA trophy and a tan leather golf bag for his efforts.

Second low gross was carded by Leonard Canella, Continental Can Co., New York. Other low gross winners were: C. W. Allen, Givaudan-Delawanna, Inc., New York; Irving Goldberg, Aerosol Research Co., Forest Park, Ill.; E. Johnson, Fritzsche Brothers, Inc., New York; Robert Peterson, Peterson Filling & Packaging Corp., Danville, O.; and W. Dietrick, Continental Can Co., New York.

E. Thomas, Swift & Co., Chicago, was low net winner, followed by Seth Schneible, Crown Cork & Seal Co., Philadelphia. Other low net winners included: Arthur Bohnert, Federal Varnish Division, Enterprise Paint Co., Chicago; D. Earnshaw, Continental Can Co., New York; Robert Svendsen, Chase Products Co., Broadview, Ill.; Charles Morrison, Federal Varnish Division, Chicago; B. Crouch, Verona Aromatics, Newark, N. J.; J. Breckenridge, American Can Co., New York; Robert Williams, G. L. Williams, Chicago; E. McKernan, E. J. McKernan, Chicago; F. Brusky and H. Hecken, A. Schrader's Son, division of Scovill Manufacturing Co., Brooklyn; and Charles Furst, Furst-McNess Co., Freeport, Ill.

The longest drive of the day was shot by Herbert Benedict, Pennsalt Chemicals Corp., Philadelphia. Runner-up in this category was Eugene Rose, Gene Rose Co., Chicago. Richard Geigle, Dow Corning Corp., Midland, Mich., drove the shot that was closest to the pin, followed by R. O. Brown, Precision Valve Corp., Yonkers, N. Y. First low net "Early Bird" score was posted by E. Thomas, Swift & Co., Chicago, and first "Booby Prize" high gross, was awarded to N. Meduzin, Realeman Puritan Co., Chicago.

There were 141 people attending the dinner which followed the golfing activities. Door prize winners included: W. Bermann and R. D. Folk, American Can Co., New York; W. Wright, E. I. duPont de Nemours & Co., Wilmington, Del.; Joseph E. Lee and R. Muirhead, McLaughlin Gormley King Co., Minneapolis; D. Brown, Continental Can Co., New York; R. L. Brett, Fairfield Division, FMC Corp., New York; R. Valentine and B. Klimas, Simoniz Co., Chicago; G. C. Dietrich, General Chemical Division, Allied Chemical Corp., New York; and D. Chandler, Vulcan-Associated Container Companies, Inc., Birmingham, Ala.

Charles E. Allderdice, Jr., Bell Chemical Co., Chicago, and Robert W. Svendsen of Chase Products Co., Broadview, Ill., were in charge of tournament arrangements.

—★—

New Johnson Directors

Samuel C. Johnson and John J. Louis, Jr., were elected to the board of directors of S. C. Johnson & Son, Inc., Racine, Wis., at the annual meeting of stockholders and directors held Sept. 22.

Samuel C. Johnson

Mr. Johnson is vice-president and international regional director for Johnson's Wax, with headquatrers in London. Mr. Louis, of Evanston, Ill., was formerly director of international marketing for the firm. The other seven members of the board were re-elected, as were the officers, including H. F. Johnson, chairman, and Howard M. Packard, president.

—★—

E. E. Riggs Dies

E. E. Riggs, 58, formerly a mid-south representative for Colgate-Palmolive Co., New York, died Aug. 13, at his home in Jacksonville, Fla., following a heart attack.

—★—

E.O.A. Award for Colgate

Colgate University was selected by the Essential Oil Association of U.S.A. as the recipient of the first $1,000 per year scholarship for 1961-62. The award is to be given to qualifying students during their junior or senior year. Purpose of the scholarship is to acquaint students with the possibilities of a career in the essential oil and aromatic chemicals field.

The scholarship committee is headed by Edwin J. Manheimer of J. Manheimer, New York essential oil house.

—★—

Labeling Act Meeting

The Association of American Soap & Glycerine Producers, Inc., New York, will hold a meeting pertaining to the Hazardous Substances Labeling Act and its Rules and Regulations, Oct. 25, at 10 a.m. in the Palm Room of the Waldorf-Astoria Hotel. All association members and others, interested in, or disturbed by the act, are invited to attend.

The legal and legislative committee of the Soap association, the association attorney, and one or more independent consultants will be present to explain the act, its rules and regulations, and to answer questions on these subjects. There is no charge for the meeting.

Johnson Joins Ryco

Bayard S. Johnson was recently named manager of chemical sales for Ryco, Inc., Conshohocken,

Bayard S. Johnson

Pa. He is responsible for the merchandising of a line of chemical specialty raw materials which includes polymers, resins, amines and basic ingredients for waxes, cleaners and detergents.

Prior to joining Ryco, Mr. Johnson was a consultant in the chemical specialties field, and chief chemist for Franklin Research Co., Philadelphia. He has been active in the C. S. M. A., serving as chairman of the Wax Division, and on the Board of Governors. For several years he has been secretary of A. S. T. M. Committee D-21, on wax polishes and related materials.

★

John C. Resch Dies

John C. Resch, 59, a salesman in the Philadelphia area for Lever Brothers Co., New York, for the past 32 years, died Aug. 13, at his home in Upper Darby, Pa., following a long illness.

Mr. Resch, who joined the firm as a salesman in 1929, was a member of the company's Quarter Century Club.

★

Babbitt Earnings

B. T. Babbitt, Inc., New York, recently announced net sales and earnings for the six months ended June 30. Sales were $9,594,895, as compared with $9,976,358 for the same period in 1960. Income for the period rose to $39,166 as compared with a loss of $628,396 in the previous year. Earnings per common share were two cents, as compared with no dividends in 1960.

★

Samuel Rosen Dies

Samuel A. Rosen, 71, a sales representative in New Jersey for West Chemical Products, Inc., Long Island City, N. Y., for the past 46 years, died of a heart attack Sept., 5, at his home in East Orange, N. J. He had suffered an attack early this year.

★

C-P Ups Endler

Appointment of Albert H. Endler to the newly-created position of vice-president and general manager of Reefer-Galler, Inc., was announced recently by David J. Mahoney, Jr., executive vice-president of parent Colgate-Palmolive Co., New York.

Formerly manager of Kay Daumit (Lustre-Creme) sales within Colgate's toilet articles division since 1960, Mr. Endler is responsible for all activities of Reefer-Galler, Inc. The wholly-owned subsidiary will operate as a part of the associated products division.

Mr. Endler joined the company as a toilet articles salesman in the Chicago district in 1940. He was named assistant sales and promotion manager for toilet articles in 1956, and sales promotion manager – chain and drug stores the next year.

Albert H. Endler

T. J. Wood to Retire

Thomas J. Wood, a vice-president and director of Procter & Gamble Co., Cincinnati, recent-

Thomas J. Wood

ly announced plans to retire from the company on October 31. Mr. Wood, who has served 42 years with the company, also declared that he will not stand for re-election as a director.

Donald H. Robinson, vice-president of overseas operations, will be nominated to replace Mr. Wood on the board, it was reported. Voting for board membership will take place at P&G's annual meeting of shareholders, to be held October 10, in Cincinnati.

★

Huntington Lab. Builds

Earl Brenn, president of Huntington Laboratories, Inc., Huntington, Ind., recently announced the construction of a new office and manufacturing plant at Lansdale, Pa.

The 40,000 square feet building will be used for the manufacture of special soaps, cleansing materials, germicides, floor polishes and other chemical specialties.

According to Mr. Brenn, the decision to build was a result of the company's expanded volume, requiring larger facilities, and the fact that the firm's present Philadelphia location at 6300 State Road may be pre-empted for the future Delaware Expressway. Plans call for completion of the new building in September, 1962, it was reported.

When you build synthetic-detergents with soluble silicates expect improved detergency at lower costs. The hard working ingredients (alkali and silica) are of themselves proved soil removers. An increased proportion of the PQ soluble silicates (sodium or potassium) in your detergents insures unique top performance with *an attractive cost advantage.*

Do you have a copy of the bulletin #1-22 "Liquid Detergent Builders"? Read about the compatibility and stability of the silicate-polyphosphate mixtures at various ratios and concentrations.

We welcome the opportunity to supply you with samples of sodium silicate or potassium silicate and to suggest how PQ silicates can be most effectively used in liquid detergents that you are considering.

PHILADELPHIA QUARTZ COMPANY
1152 PUBLIC LEDGER BUILDING, PHILADELPHIA 6, PA.

PQ SOLUBLE SILICATES
SODIUM SILICATES • POTASSIUM SILICATES

TRADEMARKS REG. U. S. PAT. OFF.

Associates: *Philadelphia Quartz Co. of Calif., Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto & Valleyfield, Canada. Distributors in over 65 cities.*

PQ PLANTS: ANDERSON, IND.; BALTIMORE, MD.; BUFFALO, N. Y.; CHESTER, PA.; JEFFERSONVILLE, IND.; KANSAS CITY, KANS.; RAHWAY, N.J.; ST. LOUIS, MO.; UTICA, ILL.

Skaar Joins Spencer

Ralph Skaar has joined Spencer Chemical Co., Kansas City, Mo., as eastern sales manager.

Ralph Skaar

He will be located at the company's New York offices, 575 Lexington Ave.

Prior to joining Spencer, Mr. Skaar was assistant product manager for the phosphate sales department of the mineral products division of FMC Corp., New York.

—★—

FTC Consent Order

The Federal Trade Commission has approved a consent order forbidding E. R. Wagner Manufacturing Co., Milwaukee, and its subsidiary, Glamur Products, Inc., Syracuse, N. Y., to claim that their rug shampoos and two applicators, "Wagner Carpeteer" and Easy Glamur Shampoo King," are as effective as professional rug or carpet cleaning, and will clean a rug or carpet without sweeping or vacuuming. In addition, the order requires them to stop claiming their shampoo will clean upholstery without brushing or vacuuming.

The order was agreed to by both companies and was accepted in an initial decision and adopted by the Commission. The concerns were charged in the FTC's complaint of Aug. 24, 1960, with making these allegedly false claims in television commercials and newspaper and magazine advertising. Their agreement is for settlement purposes only and does not constitute an admission that they have violated the law.

—★—

Gillette Stock Split

Directors of Gillette Co., Boston, have authorized a three for one stock split and have declared an extra divident of 80 cents on the common stock outstanding, in addition to the regular quarterly dividend of 6½ cents. Both dividends are payable Dec. 5 to stockholders of record Nov. 1.

Stockholders will vote on the split at a meeting to be held Nov. 16. Establishment of the initial divident rate of 27½ cents per quarter has been proposed. This is equivalent to $3.30 on the present stock, compared with the present rate of $2.50 a year. Shareholders at the meeting will also vote on increasing the authorized common stock to 33,375,228 shares, from 11, 125,076, it was reported.

—★—

CIBS Luncheon Speaker

Herbert Honig of Donald Deskey Associates, New York industrial design firm, was the guest speaker at the Cosmetic Industry Buyers & Suppliers Association (CIBS) luncheon, held Sept. 14, at the Hotel Pierre, New York. Mr. Honig described how industrial designers operate and the facts they need from their clients to develop sales winning packages and displays.

Philip Chaleyer Dies

Philip Chaleyer, 66, former head of P. H. Chaleyer, Inc., New York perfume and essential oil

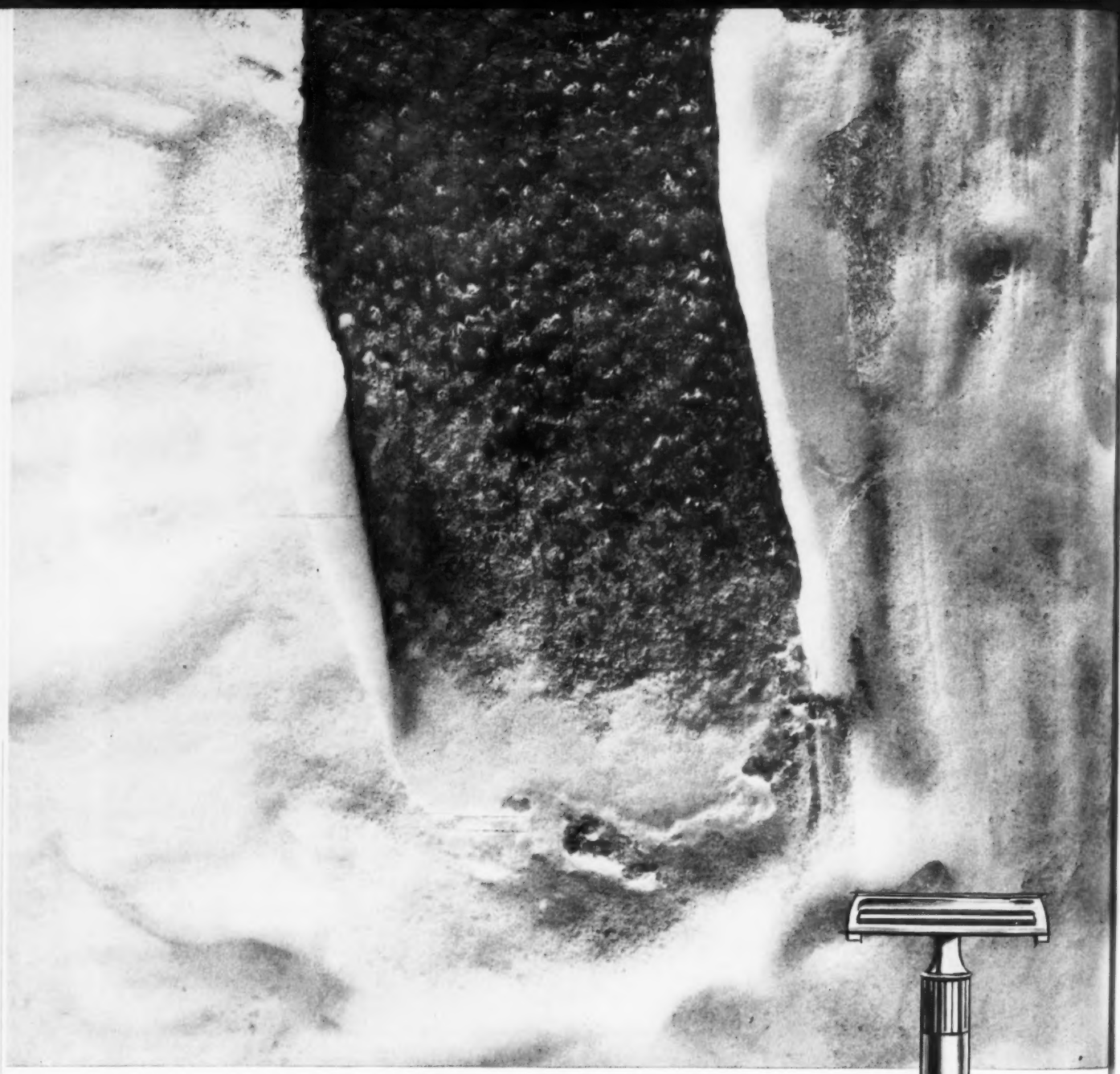
Philip Chaleyer

house, died Sept. 7, at Eastern Long Island Hospital, Greenport, N. Y.

Considered a leading creator of new perfumes, he was associated with Givaudan-Delawanna, Inc., in Switzerland, England and this country, before forming his own firm in 1928. After the sale of the company in 1953, Mr. Chaleyer served as a consultant to Hoffman-La Roche, Inc., Nutley, N. J. and Rhodia, Inc., New York.

He was a member of the Essential Oil Association of the United States of America, the Society of French Perfumers and the French Chamber of Commerce of the United States.

Shown at the CIBS luncheon held Sept. 14, at the Hotel Pierre, New York, are left to right: Dallas D. Roush, Owens-Illinois Glass Co., Toledo, CIBS general program chairman; Herbert Honig, Donald Deskey Associates, New York, guest speaker; Robert C. Ring, Duveen Soap Co., Long Island City, N. Y., CIBS president; and Frank N. Pond, Dominion Products, Inc., Long Island City, N. Y., CIBS corresponding secretary.



for the right moisture content

Olin propylene glycol U.S.P.

Moisture makes the difference in shaving cream, as it does in toothpaste and many other items. Maintaining the right amount of moisture—this is the job of Olin propylene glycol U.S.P. This accepted and economical additive—a colorless, odorless, hygroscopic liquid—does many jobs for cosmetics, chemical specialties and pharmaceuticals. It's a softening agent, ointment base, preservative, humectant, emollient. And propylene glycol U.S.P. is listed as "safe" by F.D.A. Call your local distributor or write: OLIN MATHIESON, Organic Chemicals, 745 Fifth Avenue, New York 22.

Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Propylene Oxide • Propylene Glycols • Polypropylene Glycols • Ethanolamines • Glycol Ethers • Surfactants • Ethylene Dichloride • Propylene Dichloride

ORGANICS DIVISION Olin

West Chemical Earnings Up

West Chemical Products, Inc., Long Island City, N. Y., reported sales for the six months ended May 27 at $12,256,000, up from $11,274,000, for the same period in 1960. Net income was $291,000, as compared with $285,000 in 1960. Earnings per share rose to 71 cents, up from 69 cents reported for the like period in 1960.

—★—

Aireactor in Canada

Aireactor of Canada, Ltd. has been formed, in asociation with Aireactor Corp., New York, it was announced recently. Headquarters for the new firm are located at 1940 Bourg St., Montreal.

The company is under the direction of F. W. Judge, and John R. Baker, sales manager, who will guide the operation of the company throughout the Dominion. Processing plants will be located in Montreal, Toronto and Vancouver it was reported.

The new firm will sell "Aireactor Space Deodorizer," "Aireactor D D G," "Aireactor XX," and "Odormaster" air purifier. It will also engage in sewage disposal work and smoke odor counteraction, it was stated.

—★—

1962 Certified Products

Invitations to participate in the 1962 Certified Products Program, under the sponsorship of the Institutional Research Council, Inc., have recently been mailed to 529 manufacturers and suppliers of cleaning and maintenance products. Complete instructions for submitting products, together with the necessary forms, were included in the mailing. Deadline for submitting products is Nov. 15, 1961.

Products which already appear on the 1961 list, issued by the American Hotel Association (former sponsor of the program), will automatically be eligible for free listing in 1962 upon certification to the official testing laboratory that the formulas have not been changed. Under this testing plan, products will be certified to the Institutional Research Council, Inc., on the basis of meeting all of the applicable performance requirements in accordance with the appropriate standards and tests used by the official testing laboratory, Foster D. Snell, Inc., New York.

—★—

Rose to Clarkson

Philip F. Rose has been appointed director of sales for Clarkson Laboratories, Inc., Camden, N. J. manufacturers of chemical compounds for industrial and institutional uses, it was announced recently.

Mr. Rose, formerly general sales manager of Penetone Co., Tenafly, N. J., is responsible for Clarkson's national and international sales.

—★—

Neal Joins Calo

Charles C. Neal was recently appointed head of the technical sales and service department of Philip E. Calo Co., Chicago. Mr. Neal was formerly associated with Darling and Co., Chicago, as a technical service chemist and in research.

—★—

Edouard Hache Visits U. S.

Edouard Hache, director general of Firmenich et Cie., Paris, is currently visiting the United States. While here, Mr. Hache will be headquartered at the Firmenich, Inc., New York offices, and will visit the firms' Chicago and Los Angeles branches.

Edouard Hache

P&G Dist. Rents Offices

Procter & Gamble Distributing Co., Cincinnati, has leased space for executive offices in the International Building at Rockefeller Center, 630 Fifth Ave., New York, it was announced recently. Occupancy is expected about Nov. 1. The company chiefly handles shipments to overseas markets.

—★—

Olin Names Two

Two appointments to the corporate advertising staff of Olin Mathieson Chemical Corp., New York, were announced recently. Charles J. Murphy has been named advertising manager and Wells Newell, assistant advertising managed. Mr. Murphy has held several advertising positions with the company during the past 14 years, and Mr. Newell was formerly associated with Batten, Barton, Durstine and Osborn, Inc., New York advertising agency.

—★—

Victor Phosphates Data

Polyphosphate mixtures as builders in liquid detergents are the subject of a research laboratory report issued recently by Victor Chemical Works, 155 N. Wacker Dr., Chicago 6. Mixtures of sodium tripolyphosphate with sodium hexametaphosphate and with tetrapotassium pyrophosphate were investigated. Details of the findings will be published in a forthcoming issue of *Soap and Chemical Specialties*.

—★—

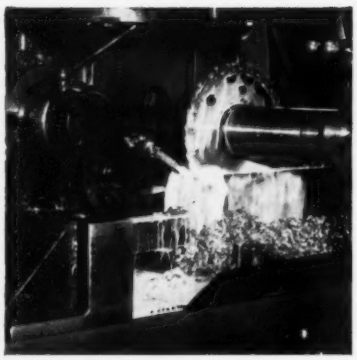
Michigan Names Coleman

Michigan Chemical Corp., St. Louis, Mich., has appointed George J. Coleman, Jr., product manager for industrial chemicals sales, it was announced recently. He is responsible for the sale and marketing of the company's groups of products including bromides, flameproofers, and other specialty chemicals.

Mr. Coleman, formerly assistant product manager with Merck & Co., Rahway, N. J., joined Michigan Chemical in December, 1960 in a sales capacity.

From the
Witco Group

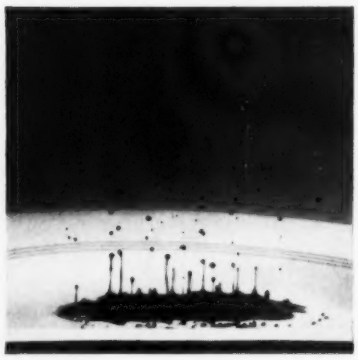
the broadest line of anionic surface-active agents in America



Sonneborn Chemical and Refining Corporation

Petroleum Sulfonates

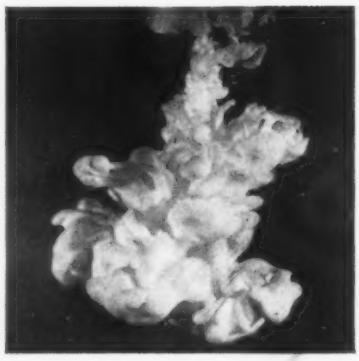
Petronates®: a full line of oil- and water-soluble surfactants whose properties as wetting, dispersing and emulsifying agents and rust inhibitors give them wide use as lube oil, fuel oil and gasoline additives, and in manufacturing such products as drilling muds, dry cleaning soaps, cutting oils, metal degreasers, rust preventives and textile and leather processing oils. Available as sodium, calcium, barium, magnesium and ashless salts. Other Surfactants: Oxidized hydrocarbons for use as rust preventives and emulsifiers.



Ultra Chemical Works

Alkyl Aryl Sulfonates

Sulframins®: basic surface-active agents for the manufacture of detergents and cleaning compounds for industrial, institutional and domestic use...and for a variety of other industrial applications such as air-entraining agents for concrete and for gypsum wallboard. Other Surfactants: Hydrotropes—xylene and toluene sulfonates for use as solubilizing and coupling agents; Ultrapoles®—conventional alkanolamine condensates and superamides; Neopones®—nonionics for various detergent tasks.



Organic Chemicals Division

Oil Soluble Salts of Dodecylbenzene Sulfonic Acid

Emcols: emulsifiers for oil/water and water/oil systems; wetting agents; detergents for hydrocarbon solvent systems; salt tolerant anionics for emulsifying solvents in high salt content aqueous solutions. Other Surfactants: fatty-acid esters, quaternary ammonium compounds, fatty-acid amides; alkanolamine condensates for such products as shampoos, lotions, creams and other cosmetics, specialty cleaning compounds, industrial emulsifiers, and industrial processing.

The organizations whose products are listed above are all subsidiaries and divisions of Witco Chemical Company, Inc. Together they represent sources for a unique range of surface-active products for industrial, agricultural and domestic applications. Further information on each group of products is available in our brochures:

Please indicate which meets with your interest—we will be happy to forward it immediately.

- ▶ "Sonneborn Purified Petroleum Sulfonates,"
- ▶ "Ultra Surface Active Agents and Their Applications,"
- ▶ "Emcol Surface Active Agents."

WITCO CHEMICAL COMPANY, INC., Dept. S-440, 122 East 42nd St., New York 17, N.Y.

Helen Booth DCAT V-P

Helen L. Booth, secretary of the Drug, Chemical and Allied Trades Association, Inc., N. Y., since 1943, was elected to the newly created office of executive vice-president of the association at its annual meeting held last month at Pocono Manor, Pa. Miss Booth (Mrs. William L. Calhoun) completed 33 years with DCAT in August.

Helen L. Booth

In 1957, Miss Booth was elected to three-year terms as director of both the American Society of Association Executives and the New York Society of Association Executives. In succeeding years she was elected secretary-treasurer and vice-president of the New York group, and in June 1961 was re-elected to another three-year term as director of that association. Her biography appears in "Who's Who of American Women".

★

Soaps-Detergents Sales

Retail sales of household soaps and detergents in food stores, increased to $1,282,650,000, in 1960 as compared with $1,221,540,000 in 1959 according to a recent report published by Food Publications, Inc., New York.

A breakdown of this total, for sales in all outlets, follows: laundry bar soaps — $34,590,000, compared with $38,260,000 in 1959; soap flakes, chips and powders — $61,770,000, compared with $64,880,000; synthetic detergents, liquid — $235,500,000, compared with $208,780,000; synthetic detergents, others — $598,570,000, compared with $573,890,000; cleansers — $94,370,000, compared with $88, 780,000; and toilet soaps — $257,850,000, compared with $246,950,000.

★

P&G Sales-Earnings Record

Procter & Gamble Co., Cincinnati, recently reported sales, earnings and dividends during the fiscal year ending June 30th were the largest in its 124-year history.

Consolidated net sales of P&G and its subsidiaries totaled $1,541,904,779, an increase of seven per cent over last year's sales of $1,441,548,293. Consolidated net earnings were $106,632,804, up nine per cent from the 1959-1960 earnings of $98,078,076. After adjusting for a two-for-one stock split of last March, net earnings per share of common stock were $2.56. Net earnings for the previous year were $2.37 per common share on the adjusted basis.

★

Sterwin Ups Bozman

John F. Bozman has been named southeastern regional sales manager for Sterwin Chemicals, Inc., New York, it was announced recently.

Mr. Bozman, who joined Sterwin in 1946 as a technical sales representative and was later appointed a district manager, supervises sales in Alabama, Georgia, Florida, North Carolina, South Carolina and Tennessee.

John F. Bozman

Dow Names Rogers

Edward W. Rogers has been named new brand manager of "Dowgard" automotive products line, for Dow Chemical Co., Midland, Mich., it was announced recently. He succeeds Garland G. Fritts, who is joining a management consultant firm.

Edward W. Rogers

Formerly merchandising manager for Dow's building products sales group, Mr. Rogers is responsible for marketing Dow's "Dowgard Full-Fill" coolant, "Dowgard" antifreeze and a new cooling system cleaner.

"Dowgard Full-Fill" coolant was introduced in 1960 through a national jobber-dealer organization. Recently, American Motors Corp., Racine, Wis., announced that the product will be factory installed in all 1962 Rambler cars. Dow's Fall program includes a fleet of traveling station wagon laboratories calling on car dealers and leading service stations in major market areas, demonstrating the new concept in engine care through improved coolant developments.

★

Fuld Names Chief Chemist

Henry B. Boyles has been named chief chemist at the Baltimore plant of Fuld Brothers, Inc., Baltimore, Md. Mr. Boyles was formerly a staff member of Fuld's research laboratory and prior to that was associated with Hercules Powder Co., Wilmington, Del., and the General Chemical Division of Allied Chemical Corp., New York.

An Advance in Stability

GIVAUDAN'S MENTHANYL ACETATE!

Menthanyl Acetate, Givaudan's new perfume ester, is the latest contribution to the development of stable perfumes for soaps, detergents and cosmetics.

Coupled with its unusual stability, Menthanyl Acetate has a clean, refreshing odor with good strength and body which makes it an ideal aromatic for many popular types of perfumes. Practical to use, domestically produced Menthanyl Acetate is moderately priced and readily available.

Although Menthanyl Acetate lends itself well to the creation of many bouquets, its use in artificial bergamot, petitgrain, and lavender is specifically suggested by its resemblance to linalyl acetate.

Samples and our technical data sheet are available upon request.

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Reilly Joins Reilly Tar

George A. Reilly has been appointed vice-president and general counsel for Reilly Tar & Chemical Corp., Indianapolis, it was announced recently. He was also named general manager of Republic Creosoting Co., a division of Reilly Tar. Prior to joining the company Mr. Reilly was a partner in the Chicago law firm of McLeish, Spray, Price and Underwood.

George A. Reilly

He is a brother of Peter Reilly, president, and Thomas Reilly, treasurer of the firm founded by Peter C. Reilly, Sr.

Republic Creosoting Co., operates wood preserving treatment plants at Indianapolis; Lima, O.; Mobile, Ala.; Minneapolis and Norfolk, Va.

—★—

Petrolite Changes

Four executive reassignments were announced recently by Petrolite Co., St., Louis. A. F. Wirtel, vice-president, has joined the staff of Wilbur C. Adams, general manager of Tretolite Co. division, as scientific and economic advisor. Mr. Wirtel supports and advises the division manager and sales department in economic studies, personnel training, and study of production problems.

G. J. Samuelson, formerly director of research, has been named technical director and chief chemist for Tretolite. Mr. Samuelson is responsible for directing the laboratories concerned with product developments, quality control and technical service, and for coordination of division technical activities.

L. C. Widdoes, president of Internuclear Co., Clayton, Mo., a subsidiary of Petrolite, has been appointed director of research for the parent company. Carl F. Leyse, general manager of Internuclear, succeeds Mr. Widdoes as chief executive officer of that subsidiary.

—★—

New DuBois Division

DuBois Chemicals, Inc., Cincinnati, has formed an air-space division for the research, development, manufacture, marketing and servicing of specialized cleaning, processing and maintenance products for use by military and commercial aircraft, missile and space agencies and industries, it was announced recently.

The following have been selected to direct the activities of the air-space division:

Edward B. Tooper, director of research; Thomas C. Fisher, associate director; Neil E. DeBranch and Victor Ledbetter, assistant directors; William P. Wilson and John Keating, research chemists; Walter E. Wilgan, technical representative; and Louis R. Karraker, coordinator.

DuBois Chemicals' air-space program will introduce products such as aluminum brighteners, spot strippers, cold tank carbon removers, thick and immersion tank strippers, dual purpose alkaline cleaners, steam cleaners, chromate conversion coatings, descalants, jet and reciprocal engine cleaners and maskants.

C-P Names Hirschberg

Joseph J. Hirschberg has been appointed manager of Kay Daumit (Lustre-Creme) sales in the toilet articles division of Colgate-Palmolive Co., New York, it was announced recently. He succeeds Albert H. Endler, who has been named vice-president and general manager of Reefer-Galler, Inc., a newly acquired C-P subsidiary.

Joseph Hirschberg

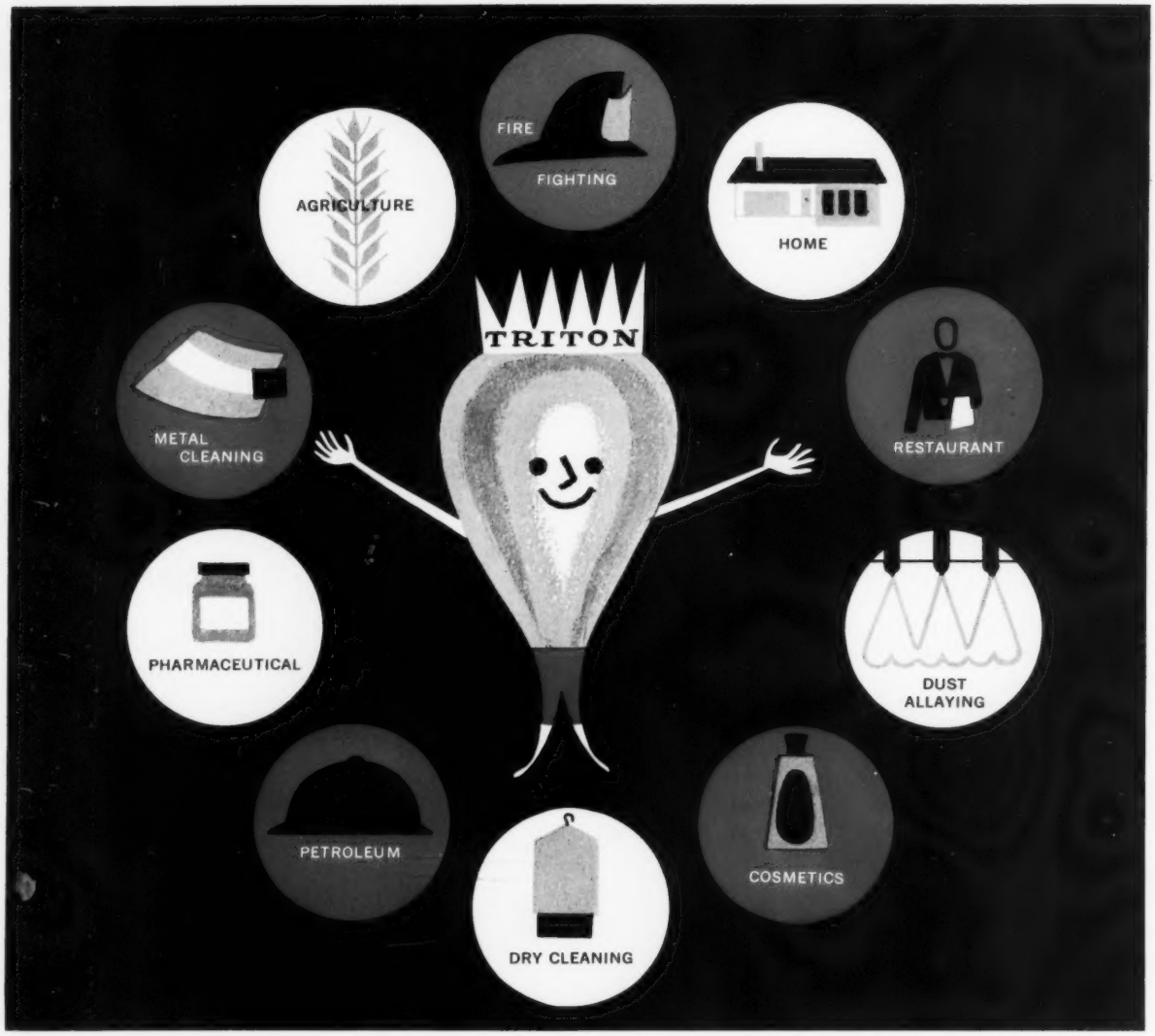
Mr. Hirschberg, who started his Colgate-Palmolive career in 1947 as a salesman in the Cincinnati toilet articles district, was most recently district manager of the Jersey City toilet articles sales district.

—★—

Fritzsche Names Gray

James P. Gray has been appointed sales representative for the San Francisco area by Fritzsche Brothers, Inc., New York, it was announced recently. Mr. Gray was formerly eastern sales manager for Merckens Chocolate Division of Consolidated Foods Corp., Chicago.

Officers of the newly-formed Air-Space Division of DuBois Chemicals, Inc., Cincinnati, are left to right: Victor Ledbetter, assistant director; John Keating, research chemist; William P. Wilson, research chemist; E. B. Tooper, director of research; C. A. DuBois, director; Thomas C. Fisher, associate director; Walter E. Wilgan, technical representative; and Louis R. Karraker, coordinator.



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Stepan Research Director

Edward A. Knaggs has recently been appointed director of research for the industrial chemicals division of Stepan Chemical Co., Northfield, Ill. Mr. Knaggs was formerly associate technical director. He was previously chief chemist for Ninol Laboratories, Inc., Chicago, and joined Stepan in 1957 when Ninol was merged with Stepan. Mr. Knaggs is the holder of a number of U.S. and foreign patents covering products in the detergent field.

Edward A. Knaggs

—★—

Heyden Chemical President

Arthur Minich has been appointed president of Heyden Chemical Division of Heyden Newport Chemical Corp., New York, it was announced recently. He succeeds R. M. Aude who died August 20. Prior to his appointment Mr. Minich had been president of the Nuodex Products Division of Heyden Newport.

—★—

Purex Dividend-Split

Purex Corp., Ltd., Lakewood, Calif., recently declared a 25 per cent stock dividend, in effect a 5-for-4 split, payable Sept. 30, to stockholders of record Sept. 8. The regular quarterly cash dividend of 20 cents per share payable September 30 to stockholders of record Sept. 8, was voted.

It was also announced that Purex will request stockholders to approve increasing the authorized number of shares of common stock from five to 10 million, after which it is intended to have a two for one stock split. An annual dividend rate of 40 cents a share is planned, which is equivalent to $1.00 a share on the present stock, an increase of 25 per cent above the present rate of 80 cents.

—★—

To Test Soaps, Cosmetics

F D & C Testing Laboratory Corp., New Hampton, N. Y. and 207 East 37th St., New York, recently announced the opening of toxicity, pharmacology and general professional consulting services to the soap, cosmetic, drug and food industries.

Equipped to evaluate the safety of soaps and ingredients used in soap making as well as in shampoos and related products, the laboratory also carries on soap and cosmetic formulations; production of pilot batches of finished products; stability and disintegration tests. The laboratory is under the direction of Dr. R. J. Schachter, formerly associated with Warner-Lambert Pharmaceutical Co., Morris Plains, N. J., and the University of Chicago.

—★—

Dow Names Williams

Richard T. Williams was recently named manager of the new lawn and garden products department of Dow Chemical Co., Midland, Mich. Mr. Williams, responsible for all sales and promotion activities for the product line, previously had been assistant merchandising manager for Dow's agricultural chemicals sales department.

—★—

Soluble Silicates Speaker

Dr. William Stericker, Philadelphia Quartz Co., Philadelphia, will address a number of American Chemical Society Sections on the subject of the soluble silicates, their properties and applications.

His schedule includes: Bradford, Pa., Oct. 16; Erie, Pa., Oct. 17; Cleveland, O., Oct. 18; Painesville, O., Oct. 19; and Youngstown, O., Oct. 20.

Three Armour Changes

Karl M. Bierman was recently appointed marketing staff manager of Armour Industrial Chemical Co., Chicago. He was formerly eastern sales manager for the firm.

Karl M. Bierman

Mr. Bierman directs the industry managers, market research and market development groups in providing information and assistance to the various field and sales departments. He joined Armour in 1954 in market research and development and was named eastern regional sales manager in 1958.

Succeeding him in that position is E. L. Rhoads, who joined Armour in 1951 in a sales capacity. He was named western sales manager in 1960. R. H. Warner has been named western regional sales supervisor for Armour. Formerly located in Chicago, Mr. Warner joined Armour in 1954 as a special assistant for industrial oils.

—★—

Johnson's Founder Honored

The late Samuel Curtis Johnson, who in 1886 founded S. C. Johnson & Son, Inc., Racine, Wis., has been elected to the Wisconsin Industrial Hall of Fame, it was announced recently. Mr. Johnson was cited for his significant industrial success, philanthropic interests and pioneering in the field of employee benefits, by a panel of the Wisconsin Manufacturers' Association which sponsors the Hall of Fame.

Give her the detergent she wants . . .

Custom-blend with TERGITOL Nonionics

To be certain that the products she buys are *yours*, custom-blend your detergents with TERGITOL nonionics. The product that outcleans and outshines competition is the one she'll favor; and TERGITOL nonionics can give your detergent the properties that fill all her exacting demands.

From CARBIDE you can obtain nonionics with properties ranging from complete oil solubility to complete water solubility. Also you can obtain information on blending these nonionics to give you the precise properties you want for your specialty products.

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TERGITOL NPX—a nonyl phenyl polyethylene glycol ether containing 10.5 moles of ethylene oxide, is ideal for the base of your all-purpose detergents and wetting agents. Its cloud point is in the 60 to 65°C. range, and it is compatible with soaps and other surfactants. TERGITOL NPX is soluble in many alcohols, ketones, glycols, glycol-ethers, and esters; and its stability is not affected by acids, bases, or salts.

TERGITOL TP-9—with 9 moles of ethylene oxide and a cloud point in the 51 to 56°C. range, is similar to NPX in its usefulness, and is designed for use in water at less than 125°F.

The CARBIDE Technical Representative in your area will be happy to discuss your special requirements with you. Give him a call and see what a customized formula can do for your products. Or write: Union Carbide Chemicals Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, New York.

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Allied Ups Houghton

Appointment of William E. Houghton as manager of market surveys for the General Chemical

William Houghton

Division of Allied Chemical Corp., New York, was announced recently.

With the division 28 years, Mr. Houghton was previously a manager, and earlier, an asssistant manager of heavy chemical sales. He also served as manager of General's Philadelphia sales office, and assistant manager of the New York metropolitan sales office, it was reported. He will be headquartered at General's research and administration center in Morris Township, New Jersey.

—★—

Lehn & Fink Report

A rise in sales, income and earnings per share was reported recently by Lehn & Fink Products Corp., New York, for the first six months of 1961. Sales totaled $47,360,939, up from $41,584,360 the previous year. Net income for the period was $1,896,860, as compared with $1,647,997, in 1960. Earnings per share were $1.67, up from $1.50, the previous year.

—★—

"Vapona" Labels Approved

The U. S. Department of Agriculture has approved new labels for "Vapona" insecticide (DDVP) as a coarse wet spray and as a fogging solution for treating animal buildings and many types of outdoor areas, it was announced recently by the agricultural chemicals division of Shell Chemical Co., New York. These formulations are said to control flies, gnats, mosquitoes, roaches, fleas, ants, sowbugs and brown dog ticks.

Previously, application of the insecticide was permitted only by pest control operators. Label acceptance of "Vapona" as a spray now makes it possible for farmers, supervisors of recreational areas and others to apply it themselves with conventional equipment, it was reported.

The wet spray can be formulated as a 0.5 per cent solution or water diluted emulsion. For most applications a quart will treat 1,000 square feet. For fogging a 0.5 per cent to 1.0 per cent solution is formulated by mixing one half to one quart of 90 per cent concentrated solution with 16 gallons of diesel oil. A pint of 1.0 per cent or a quart of 0.5 per cent fogging solution will treat 8,000 cubic feet, the company states. The 0.5 per cent wet spray will control fly maggots in breeding areas at the rate of one pint per 100 square feet, according to the company.

—★—

Receives Fritzsche Award

Selection of Prof. E. R. H. Jones , Oxford, England, as the recipient of the 1962 Fritzsche Award, was announced Sept. 7, at the American Chemical Society's 140th meeting held in Chicago.

The award was granted to Prof. Jones for his contributions in the field of terpenoid chemistry — notably the chemistry of the higher terpenes and the synthesis of terpenoids related to Vitamin A. The presentation of the award will take place at the spring meeting of ACS to be held in Washington, D. C., May 20-29, 1962.

—★—

R. F. Hunt Dies

R. F. Hunt, bulk soap sales and service representative with Procter & Gamble Distributing Co., Cincinnati, died at Sacred Heart Hospital, Pensacola, Fla., Aug. 4. Mr. Hunt had served the company in Memphis, New Orleans, Cincinnati and most recently in St. Louis.

Dust Specialist to Cowles

Cowles Chemical Co., Cleveland, O., has announced the recent addition of Gaston C. Majeune to its laundry technical service staff. Mr. Majeune had been doing dust control development work for Masury-Young Co., Boston, for three and one half years prior to joining Cowles, it was reported. He will assist John Balog, director of technical service, in the application of Cowles products and in developing solutions to washroom problems.

Gaston Majeune

Alfred Jurusz

Cowles entered the dust control market in late 1960 and now has two products: "Drylite," and "Keg 501G" on the market.

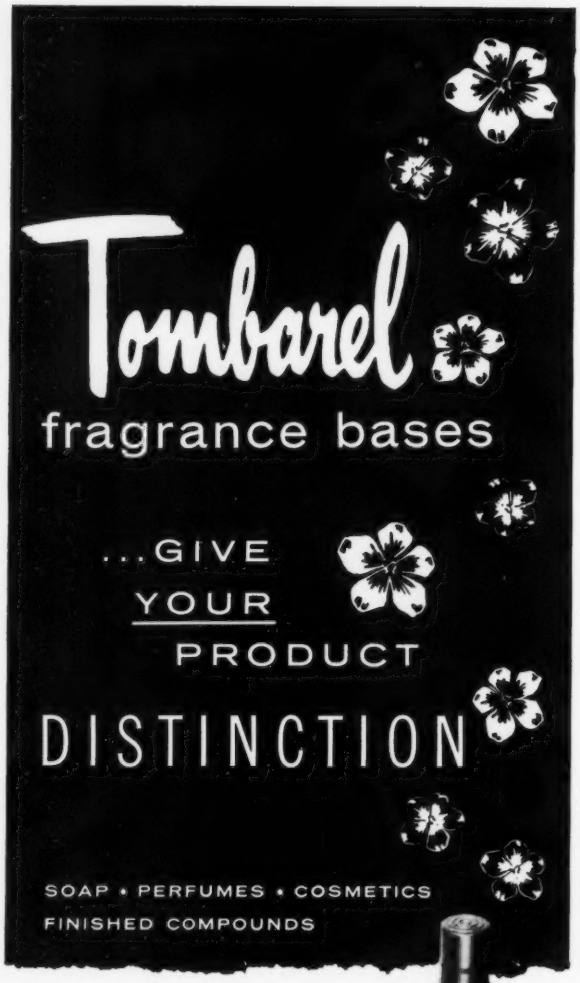
Cowles also announced the appointment of Alfred S. Jurusz, a salesman in the New England area for the past five years, as Pacific District sales manager. He replaces Patrick H. Kack, who has been named sales manager for the Central District. The Pacific District is made up of the fourteen western states.

—★—

Liquid Soap Standard

Copies of a revised standard specification for liquid toilet soap are now available at 30 cents each from the American Standards Association, 10 East 40th St., New York 16, or from the American Society for Testing and Materials, 1916 Race St., Philadelphia 3.

Developed and published by ASTM Committee D-12 on Soaps and Other Detergents, the revised standard covers specifications for liquid toilet soap (15 per cent minimum anhydrous soap) and for the concentrate (35 per cent minimum anhydrous soap).



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Annual Review of Entomology Volume 6

Volume 6 of this series appeared in January 1961. The five previous volumes, which are still available, established the high standards of the Annual Review of Entomology.

Price to organizations and non-members: $7.00 per copy postpaid in the U. S. A., $7.50 per copy elsewhere.

Miscellaneous Publications of the Entomological Society of America

This new periodical contains timely and scholarly articles of 20 printed pages or more. The individual numbers appear at irregular intervals. Each volume will contain about 200 pages.

Volume 1, Number 1, pp. 1-32 appeared October 1, 1959, and contains the symposium papers on Insecticide Resistance in Arthropods of Medical and Veterinary Importance given at the Salt Lake City meeting in December 1958. Authors H. F. Schoof, R. B. March, A. W. A. Brown, and Herbert Knutson. Single copy, $2.50.

Volume 1, Number 3, pp. 69-171 appeared July 27, 1960 and contains the following: "Swarming and Mating in Mosquitoes," by Erik Tetens Nielsen and James S. Haeger. "A Revision of the Genus *Chlaenius* Bonelli (Coleoptera, Carabidae) in North America," by Ross T. Bell. Single copy, $6.00.

Volume 2, Number 1, pp. 1-175 appeared October 19, 1960 and contains the 23 papers presented at the Symposium — Research Progress on Insect Resistance held at Washington, D. C., October 7 and 8, 1959. Single copy, $7.50.

Terms of Subscriptions: $10.00 per volume in North America and U. S. Possessions, $10.50 elsewhere.

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ENTOMOLOGICAL SOCIETY OF AMERICA
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Antara Names Two

E. S. Underwood has been named product manager for surfactants, and W. C. Calvert, Jr.,

W. C. Calvert, Jr. E. S. Underwood

has been appointed product manager for heavy chemicals, it was announced recently by Antara Chemicals, a division of General Aniline & Film Corp., New York.

Mr. Underwood had been manager of heavy chemicals since 1959. He joined Antara in 1953 as sales engineer in the western region, and was appointed eastern regional sales manager in 1958.

Mr. Calvert, prior to his new appointment, was assistant product manager for heavy chemicals. He joined Antara in 1957 as a sales engineer and was named product engineer for heavy chemicals in 1958.

—★—

Lowers Price on Anionic

A price reduction of one to one and a half cents per pound on "Triton X-200" anionic detergent was announced recently by Rohm & Haas Co., Philadelphia. New prices, per pound, f.o.b. Philadelphia, are: LTL, drums (450 pounds net)—$0.285; TL, drums (450 pounds net)—$0.275; tank-truck (30,000 pounds)—$0.255.

"Triton X-200" is an 28 per cent solids anionic detergent used in shampoos and other personal products as well as in metal cleaning compounds and other industrial cleaning formulations.

—★—

Expands Technical Center

Procter & Gamble Co., Cincinnati, recently announced plans for a 50 per cent expansion of its Winton Hill Technical Center in that city. Construction on the 200 acre site, to begin late this fall, is scheduled for completion in early 1963.

The two new buildings will have a total of 150,000 square feet of floor space which will house offices, laboratories and pilot-scale processing facilities for the company's product development and manufacturing administration activities.

Most of the 250 technical, administrative and service employees who will initially occupy the new units will be transferred from Ivorydale Technical Center and the Miami Valley Laboratories, it was reported.

—★—

G M A Appoints Director

George W. Hayden, has been appointed director of employee and public relations for the Grocery Manufacturers of America, Inc., New York, it was announced recently.

—★—

New DuBois, Ltd. Plant

DuBois Chemicals of Canada, Ltd., a wholly-owned subsidiary of DuBois Chemicals, Inc., Cincinnati, has moved to its newly completed plant in Weston, Ontario. The 28,000 square foot facility will serve the production needs for all institutional and industrial sanitation, maintenance, and processing compounds sold by DuBois representatives throughout the Dominion. In addition to floor and mezzanine areas for the mixers, hoppers and kettles now installed, there is space for future expansion and the addition of more equipment, it was reported.

Chemical Corp. Expands

Chemical Compounding Corp., Brooklyn, has acquired for cash the assets and buisness of Natco Chemical Products Corp., New York manufacturer of automotive chemicals and related products.

Chemical Compounding, manufacturer of sanitary chemical specialties for industrial distributors and government agencies for over 30 years, will continue to market its products under the "Quist" brand. The "Natco" name will be retained for its automotive division, headed by J. L. Ryan, it was reported.

—★—

Continental Oil Ups Three

Continental Oil Co., Houston, Tex., recently announced the appointment of William F. Brown, manager of petrochemical planning, to its international department staff, with headquarters in New York. Wyatt L. Walker, assistant superintendent of the company's Ponca City, Okla., refinery, has been named manager of petrochemical planning, petrochemical department, Houston, succeeding Mr. Brown. Norman Newton, refinery superintendent, Wichita Falls, Tex., has been appointed assistant superintendent of the Ponca City refinery, succeeding Mr. Walker.

—★—

Fritzsche Names Pope

Lonnie H. Pope has been appointed sales representative for the recently established Dallas area by Fritzsche Brothers, Inc., New York. Mr. Pope was formerly an analytical chemist with the company.

General offices and complete manufacturing facilities of DuBois Chemicals of Canada, Ltd., are located in this new 28,000 sq. foot plant in Weston (Toronto), Ontario.

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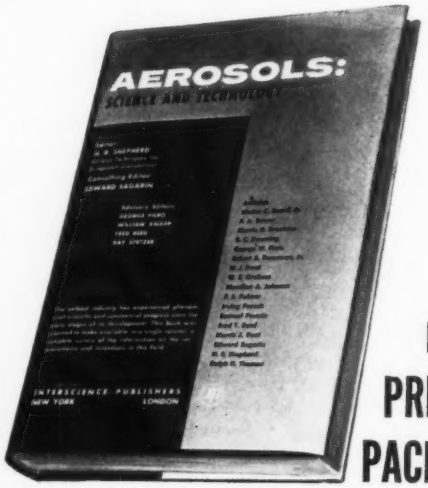

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C-P, Ltd. Appoints Brown

Colgate-Palmolive, Ltd., Toronto, recently announced the appointment of D. A. Brown as advertising manager, and the resignation of R. E. Jones, vice-president in charge of advertising.

Mr. Brown joined the company sales staff in 1951. In 1956 he was promoted to the brand department, and was appointed manager in 1958.

—★—

Lebanese Detergent Plant

A synthetic detergent plant now under construction in Lebanon will be the first such installation in that country. The factory will reportedly use a process licensed from Procter & Gamble Co., Cincinnati. Capacity is large enough to not only fill Lebanon's needs but to export detergents to neighboring countries.

—★—

New UBS Emulsions

Two new floor emulsions, "U-5000 Ubatol" and "U-3400 Ubatol," were recently introduced by U B S Chemical Co., Cambridge, Mass.

A styrene emulsion, "U-5000 Ubatol," is supplied at 50 per cent solids, can be compounded and shipped as a 40 per cent solids polish concentrate, and further diluted to a 12 per cent solids polish with the addition of water. It is said to possess good gloss, levelling and recoatability characteristics.

"U-3400 Ubatol," an acrylate based emulsion said to have good gloss retention, can be compounded into a non-yellowing household polish with increased wear characteristics and a high resistance to black heel marking, the company states.

—★—

Baker Names Harper

Baker Castor Oil Co., Bayonne, N. J., recently announced the appointment of John D. Harper as a field representative in its western sales division. Assigned to Baker's Los Angeles district sales office, Mr. Harper services the chemical, resin, and paint, industries in Southern California.

Johnson Wins Injunction

A Cleveland Federal District Court has enjoined Bell Co., Cleveland, and its automotive products division, Westley Industries, from selling and advertising Westley's "Vacation" car wash cream in packages similar in appearance, colors and design to the package used by S. C. Johnson & Son, Inc., Racine, Wis., for its "Holiday" car washing cream.

The consent order, entered July 26, also enjoins Westley from using "Vacation" or any other trademark "confusingly similar" to Johnson's brand name "Holiday" with polishes and cleaners. In a complaint filed July 14, Johnson charged Westley with unfair competition, trademark infringement, and copyright infringement. The company also sought a preliminary injunction and an impounding order. The court's final judgment states that Westley's infringement was deliberate and willful.

Under the order, Westley delivered to Johnson all "Vacation" bottles in its possession, all advertising material relating to "Vacation" car wash cream, and all plates, molds, matrices, and other means for making copies of the infringed label. The court did not award costs, damages or attorneys' fees in its judgment; with the parties settling the matter between them.

Bell Co., Cleveland, has been enjoined from selling "Westley's Vacation" car wash because of similarity to "Holiday", S. C. Johnson's car wash cream.

Drackett Sales-Earnings

Drackett Co., Cincinnati, recently reported a total of $23,014,000 in sales for the nine months ended June 30th, as compared with $22,309,000, for the same period last year. Net income for the period totalled $2,197,000, as against $1,791,000 in 1960. Earnings per share rose to $2.29, as compared with $1.95 for the same nine months in 1960. Directors of the firm declared a quarterly dividend of 40 cents a common share payable August 19, to holders of record August 10.

—★—

Appoints Sales Agent

Capital City Products Co., Columbus, O., producer of fatty acids and allied chemical products, recently appointed the Donald R. Fiztgerald Co., 5875 North Lincoln Ave., as its Chicago representative.

—★—

Insect Vacuum Introduced

Eide Enterprises, Inc., Grand Forks, N. D., has introduced the "Bug-O-Vac" automatic insect vacuum, claimed to clear up to one acre of insects such as mosquitos, flies, gnats, and chiggers. The electric trap is equipped with a single 15-watt black light fluorescent lamp.

—★—

DuBois Qtr. Sales Record

Du Bois Chemicals, Inc., Cincinnati, for the six month period ended Aug. 31, recorded net sales of $14,392,000, an increase of $789,999 or 5.8 per cent over the same period last year. It was also the highest first quarter in the company's history.

Net earnings for the six month period were $1,098,000 or 45 cents per share, compared with $1,179,000 or 48 cents per share for the same period in 1960.

—★—

Mennen Ups Two

Sylvester J. Cleary, formerly marketing coordinator, has recently been appointed merchandising manager by Mennen Co., Morristown, N. J. He is succeeded by Donald L. Gallagher, who was formerly sales office manager.

Propellant Hearing

(*From Page* 169)

"the primary hazard associated with liquified hydrocarbon propellants is the danger of flammability." Dr. Parks' statement quoted a Bureau of Mines bulletin listing the upper and lower explosive limits in air per cent by volume of three hydrocarbon gases as follows:

	Lower	*Upper*
Isobutane	1.83	8.43
Butane	1.86	8.41
Propane	2.37	9.50

The explosive limit in air, was described by Dr. Parks, as "the point at which a mixture of gases will propagate a flame." He stressed that the "lower limit is the most important to be considered" where "hydrocarbons would leak from closed containers in the air." An explosive mixture can be formed by as little as 3.37 per cent by volume of hydrocarbons in air, according to Dr. Parks. Such a mixture "will continue to explode until the propane content exceeds 9.5 per cent," he pointed out. Smaller percentages (1.86 and 1.63, respectively) of butane and isobutane form explosive mixtures the data cited above show, according to Dr. Parks.

Leakage from aerosol containers in storage is the most important danger arising from the use of hydrocarbon propellants, the Rhode Island University scientist declared. The presence of the containers themselves greatly reduces the free air space in a warehouse, and thus the total amount of hydrocarbon present is increased as the quantity of containers stored in the warehouse is increased. As a result, leakage from a "small percentage of the containers" in the warehouse would "be sufficient to attain the lower explosive limits," Dr. Parks pointed out.

A similar situation applies in the case of trucks and freight cars or other places where hydrocarbon containing aerosol products are stored.

"Explosive data are available for various aerosol shave creams containing various percentages of hydrocarbon propellants," according to Dr. Parks. "The experimental data show the relationship between the weight of the shave cream required for an explosion and the propellant concentration," he stated. "Also, the percentage of the net contents required for an explosion is a function of propellant content."

Although aerosol loaders using hydrocarbon propellants have installed "all known safety factors in their plant, such as explosion-proof motors, adequate ventilation for frequent plant air changes and hydrocarbon gas detection devices," . . . the safety of the public, sales persons, warehouse men and firemen has been disregarded by the use of hydrocarbon gas in pressurized containers," Dr. Parks declared.

He asserted that the hazard of aerosols containing hydrocarbon propellants is "multiplied by pressurized units stored in a warehouse," as well as those in "retail stores and . . . in home closets."

Products tested by Dr. Parks included pressure packaged liquid formulations containing 10 per cent and less of hydrocarbons by weight, and pressure packaged foam products containing eight and five per cent of hydrocarbons by weight. Products tested include hair sprays, air deodorants, insecticides, perfumes, and starch sprays. Foam products were shave creams and hand lotion.

Dr. Parks defined a "flammable gas as one which when mixed with the correct amouat of air will flame. If proper conditions are established an explosion can occur. Hydrocarbons produce flammable gas," according to Dr. Parks.

"On the basis of the evidence available, I, therefore, recommend that hydrocarbon gases (or any flammable gas) should not be used as a propellant or any part thereof in any pressurized package or aerosol container," Dr. Parks' statement concluded.

★

Soap Meeting Jan. 24-26

The emphasis will be on hazardous substances labeling in formal and informal discussions during the 35th annual convention of the Association of American Soap & Glycerine Producers, to be held at the Waldorf-Astoria Hotel, New York, Wednesday, Thursday and Friday, Jan. 24-26, 1962, it has just been announced by Roy W. Peet, secretary-manager of the association. The program, according to Mr. Peet, will emphasize the problems at the federal level, including interpretation of the Rules and Regulations of the Federal Hazardous Substances Labeling Act. The program will also include discussions of trends in detergents and detergent ingredients.

Members of the 1962 convention committee are as follows:

David L. Duensing, Armour and Co., Chicago, chairman; A. C. Cereghino, HumKo Division, National Dairy Products Co., Memphis; W. J. Curry, Jr., Shell Chemical Corp., New York; J. E. Drew, Lever Brothers Co., New York; James G. Hough, Continental Oil Co., New York; A. H. Howland, Original Bradford Soap Works, Inc., West Warwick, R.I.; R. F. Huntley, Cowles Chemical Co., Cleveland; Robert C. Hyatt, Antara Chemicals Division, General Aniline & Film Corp., New York; Louis Lerner, DuBois Chemicals, Inc., Cincinnati; Clint Pace, Procter & Gamble Co., Cincinnati; G. H. Packwood, Jr., G. H. Packwood Mfg. Co., St. Louis; W. L. Rippeteau, Wyandotte Chemicals Co., Wyandotte, Mich.; R. D. Stayner, Oronite Division, California Chemical Co., New York; R. B. Wearn, Colgate-Palmolive Co., New York; William Weston, Ultra Chemical Works, Inc., Paterson, N.J., and Howard G. Young, Davies-Young Soap Co., Dayton, O.

★

Wishnick Aids USO

Robert I. Wishnick, chairman of the board of Witco Chemical Co., New York, will serve as chairman of the Chemical Division during the Greater New York USO's 1961 fund-raising campaign, it was announced recently. The USO seeks $11,525,000 nationally, with New York's quota set at $1,250,000.

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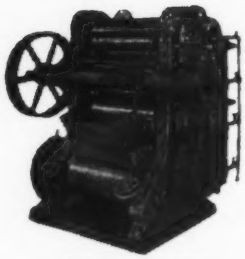

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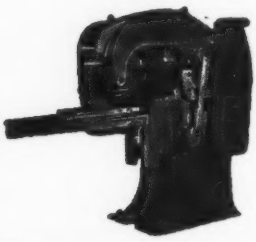

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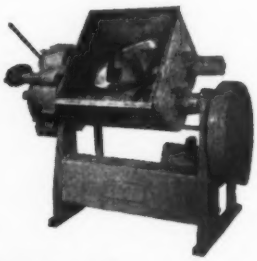

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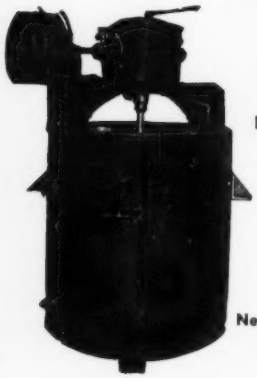

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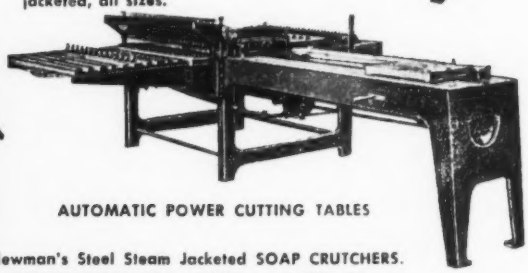

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(*Continued on Page* 219)

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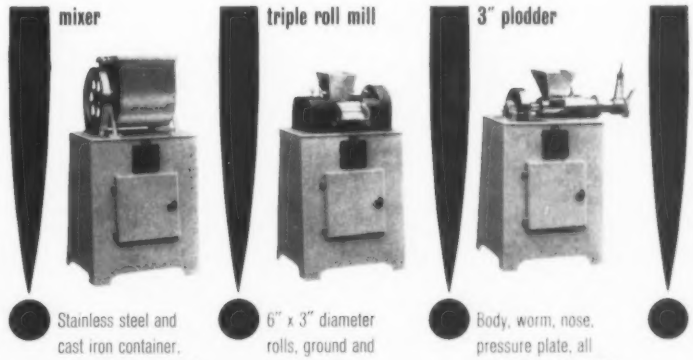

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Publication Renamed

The name of *Maintenance-Sanitary Supplies*, a monthly trade magazine for dealers and distributors of sanitary supplies, cleaning materials and maintenance equipment, will change its name with the November issue to *Maintenance Supplies*.

There will be no change in editorial content or make-up of the magazine, which has been published since 1956 by MacNair-Dorland Co., 254 W. 31st St., New York 1, N. Y., publishers of *Soap and Chemical Specialties*. *Maintenance Supplies* will continue to serve sanitary supply distributors, janitor supply jobbers, maintenance supply dealers, school suppliers, paper jobbers, hotel and restaurant supply dealers, and all firms dealing in or distributing sanitary and maintenance supplies and equipment.

—★—

Aerosol Valve Booklet

A booklet describing its new aerosol valve and spray heads was issued last month by Uni-Valve Corp., Franklin Park, Ill. The firm, headed by Henry C. Kappel, president, is currently producing an aerosol valve (UV-100) for containers having a one inch opening, and a valve (UV-600) for 20 mm neck glass bottles. In addition the firm is offering 20 possible combinations of spray heads, with varying spray characteristics. The UV-1100 spray head is designed to achieve internal mixing and metering prior to the exit orifice by custom placement of a molded insert from the rear of the spray head. The insert comes in three designs (UV-1102, UV-1104, UV-1106), two with feeder grooves on the 45° cone, 90° apart, and tangent to the small diameter of the frustum, to impart a swirling action to the flowing fluid. The third design (UV-1106) utilizes volume flow to create turbulence for effective mechanical dispersion.

Two interior designs (UV-1101 and UV-1103) of the spray head body are available to extend further the variable range of the internal swirl chamber.

Fast production filling and minimized clogging are claimed for the valve design.

Specifications, prices and a schematic drawing are included in the 10-page bulletin.

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Two New Tykor Products

A new self polishing floor care product for use on asphalt, vinyl, rubber and ceramic tiles as well as on linoleum and terrazzo flooring was introduced recently by Tykor Products Division of Borden Special Products Co., 350 Madison Ave., New York 17.

Intended primarily for use in offices and stores, the new product is based on styrene-acrylic copolymers. Basic raw materials for the polish are being produced by Borden Chemical Co., according to Russell G. Puhle, general manager of the division.

Tough, long lasting, bright films result from use of the polish, according to the manufacturer. Said to give a very hard wearing and glossy finish, which may be damp mopped with clear water without loss of lustre, the polish is claimed to be readily removable with soap or detergent and water.

The new floor polish is marketed in one gallon plastic jugs of high density polyethylene.

At the same time, Mr. Puhle announced "Tykor Syn-Lube", an all synthetic liquid lubricant-cleaner for use on chain conveyors in dairies and other food processing plants.

The product is intended to replace the conventionally used soap-based or soap containing liquid and gel type products. Greater lubricity, ease of application, detergency and anticorrosive properties are claimed for "Syn-Lube", which incorporates a corrosion inhibitor. Said to be economical in use, the new product comes in 30 and 55 gallon drums.

—★—

Malinowski Joins Staley

Theodore P. Malinowski has been named to head the reorganized chemical sales activity of A. E. Staley Manufacturing Co., Decatur, Ill., it was announced recently. Mr. Malinowski was formerly industry marketing manager for the chemical division of Atlas Chemical Industries, Inc., Wilmington, Del. Prior to that he was development manager and assistant director of product development at Atlas and was associated with

Theodore P. Malinowski

the plastics division of Monsanto Chemical Co., St. Louis.

Mr. Malinowski is a member of the Commercial Chemical Development Association, the American Chemical Society, Toilet Goods Association and the Society of Cosmetic Chemists.

—★—

New Polak Canadian Agent

Polak's Frutal Works, Inc., Middletown, N.Y., recently announced appointment of Natural Products Corp., Montreal and Toronto, as its agents in the Dominion of Canada in all provinces except British Columbia.

Natural Products maintains warehousing and forwarding facilities in Toronto and Montreal. A. J. de Jong, Polak's sales representative in Canada, will work closely with Napro's staff, it was reported.

—★—

UCC Appoints Trigaux

George A. Trigaux has been named manager of new product development for Union Carbide Olefins Co., New York, it was announced recently. He was previously with Union Carbide Chemicals Co., New York, as new chemicals product manager of the epoxies and plasticizer group. In his new position, Mr. Trigaux is responsible for the commercialization of new products now in research and the development of new business opportunities for the company.

Premium Show

The 23rd New York Premium Show, sponsored by the Premium Advertising Association of America, Inc. (PAAA), was held Sept. 25-28, at the New York Coliseum. William P. Dunham, newly elected president of PAAA, officially opened the show at a ribbon cutting ceremony, Monday morning, Sept. 25th, in front of the Coliseum. An estimated 400 firms displayed merchandise during the show.

The annual Premium Advertising Conference was held Sept. 26, in the Henry Hudson Hotel. Glen Towns, vice-president of PAAA, substituting for president Gordon C. Bowen who was stricken ill prior to the show, addressed the forum and introduced Mr. Dunham. The president-elect spoke on "A New Horizon for Premium Incentive Advertising and Merchandising."

Following Mr. Dunham, Charles J. McNary, manager of premium sales office, Eastman Kodak Co., Rochester, N. Y., offered "Nothing Succeeds Like Cash," outlining his company's premium program. A dialog, "Before Using-Get Some Film," was presented by John J. Grogan, assistant to the advertising manager, eastern division of California Oil Co., and Edward A. Wetzel, Jr., account executive, Batten, Barton, Durstine & Osborn, Inc., New York. The talk described a major promotion involving camera premiums.

—★—

New Floor Dressing

Lab Automated Chemicals Corp., Baltimore, Md., recently announced the development of an aminoacrylate floor dressing formulation known as "Lab Wash 'N Wear Washable Seal and Dressing." Product may be applied to any composition or terrazzo floor surface, with applicators or string mops, and dries within 20 minutes to a tough, soil-resistant film, the company states. Waterproof and resistant to alkalies, soaps and detergents, the anti-slip film may be removed with a specially formulated stripper marketed by the company.

—★—

Emery Advertising Changes

A. C. Fusaro has been appointed director of advertising for Emery Industries, Inc., Cincinnati, it was announced recently. He is responsible for advertising and public relations for the company's six operating divisions, in addition to corporate activities. Mr. Fusaro has been in Emery's advertising department for 11 years, the past four as assistant director of advertising. Prior to that, he was in technical sales service and assistant chief chemist for the company.

Other advertising division appointments also announced were: E. W. McNerney to manager, Sanitone advertising, and E. L. Spencer as manager, chemical advertising.

—★—

Two Aid Fund Drive

Nils S. Dahl, general manager of John T. Stanley Co., and R. E. Horsey, vice-president of Givaudan-Delawanna, Inc., both New York, have accepted appointments for 1961 as chairman of the soap division and essential oils division, respectively, of Travelers Aid Society of New York's 56th Annual Appeal for Funds, it was announced recently.

—★—

Meendsen Joins Wood Ridge

Fred C. Meendsen has joined Wood Ridge Chemical Corp., Wood Ridge, N. J., as sales manager of the specialties division, it was announced recently. He had been associated with Velsicol Chemical Corp., Chicago, since 1957.

—★—

AMA Names Northrup

Jack Northrup, assistant to the president of Purex Corp., South Gate, Calif., has been appointed chairman of the conference policy and review board of the American Marketing Association, it was annonuced recently.

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COMING MEETINGS

American Oil Chemists Society, national meetings, Pick Congress Hotel, Chicago, Oct. 30-Nov. 1, 1961; Roosevelt Hotel, New Orleans, May 7-9, 1962.

Association of American Soap & Glycerine Producers, 35th annual convention, Waldorf-Astoria Hotel, New York, Jan. 24, 25, and 26.

Canadian Manufacturers of Chemical Specialties Association, fourth annual meeting and conference, Royal York Hotel, Toronto, Oct. 30-Nov. 1.

Chemical Industries Exposition, Coliseum, New York, Nov. 27-Dec. 1.

Chemical Specialties Manufacturers Association, 48th annual meeting, Roosevelt Hotel, New York, Dec. 4-6, 1961; 48th midyear meeting, Drake Hotel, Chicago, May 14-16, 1962.

Chicago Perfumery, Soap & Extract Assn., Thanksgiving stag party, Furniture Club, Nov. 14; annual business meeting (luncheon), Sheraton Towers, Dec. 12; Christmas Ball, Conrad Hilton Hotel, Dec. 16.

Entomological Society of America, ninth annual meeting, McAllister Hotel, Miami, Fla., Nov. 27-30.

National Agricultural Chemicals Association, annual meeting, Homestead, Hot Springs, Va., Oct. 29-Nov. 1.

National Hotel Exposition, Coliseum, New York, Nov. 6-9.

National Pest Control Association, annual convention, Deauville Hotel, Miami Beach, Fla., Oct. 16-19.

National Sanitary Supply Assn., 39th annual convention and trade show, Coliseum, New York, May 26-29, 1962.

Packaging Institute, 23rd annual national packaging forum, Biltmore Hotel, New York, Oct. 18-20.

Packaging Machinery Manufacturers Institute, (PMMI) fourth annual show, Cobo Hall, Detroit, Nov. 7-10, 1961.

Society of Cosmetic Chemists, annual meeting, Biltmore Hotel, New York, Nov. 28; Chicago Chapter, monthly meetings, Henrici's Restaurant, Merchandise Mart, Oct. 10, Nov. 14.

Synthetic Organic Chemical Manufacturers Assn., monthly luncheon meetings, Roosevelt Hotel, New York, Nov. 14; Jan. 9, 1962; annual dinner, Dec. 7.

Toilet Goods Assn., Scientific Section, Waldorf-Astoria Hotel, New York, Nov. 20; May 9, 1962.

Toilet Goods Assn., 27th annual meeting, Chateau Frontenac, Quebec, June 24-29, 1962.

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* * * * *

2. Detergent Evaluation and Testing by Jay C. Harris.

220 pages, 26 illustrations. A critical selection of methods and procedures for testing detergents. Price $4.50.

* * * * *

3. Soap Manufacture by Davidson, et al.

Volume I—537 pages, 66 illustrations, 118 tables. Covers history of soap, principles of soap manufacture, fats and other raw materials for soap manufacture. Price $13.50.

Volume II—Now in course of preparation.

* * * * *

4. Handbook of Pest Control by Arnold Mallis

Third Edition—1132 pages, 250 illustrations. Covers household and industrial pests—, insects, rodents, etc., their life cycles, habits, identification and latest chemicals, methods and techniques for control. Price $12.50.

* * * * *

5. Aerosols: Science and Technology by H. R. Shepherd, Edward Sagarin, et al.

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* * * * *

6. Pressurized Packaging (Aerosols) by Herzka and J. Pickthall

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tale ends

FRED Lodes, treasurer of CSMA, shot one of the best rounds of golf in his life over the tough Oyster Harbors Club golf course during the recent CSMA board of governors meeting on Cape Cod. Fred had a 73. But because he had to leave the meeting early to sail for Europe on the Queen Mary, he was unable to play in the golf tournament held during the board meeting. Winner of the tournament was John Hulten of Union Carbide with a low gross score of 83.

* * * * * *

Speaking of golf, when we said the Oyster Harbors course is tough, we really meant just that. Ask Charlie Beach, CSMA prexy. He took seven shots to get out of one trap on the ninth hole for a sterling 13. Mike Lemmermeyer nearly duplicated the effort with a 12 on another hole. For proof positive of the rigors of the O.H.C. layout we submit the score of one Joe Fredette of American Can who required 163 "shots" for 18 holes.

* * * * * *

Although to look at him you wouldn't believe he was more than a sprout during the "Roaring 'Twenties," Joe Lœ of McLaughlin Gormley King Co. can lay claim, without opposition, to being the CSMA Charleston Champ. With crew cut and dark rimmed glasses, Joe needs nothing more than a raccoon coat to take us clear back to 1929. The guy dances (?) the Charleston so well he might even be giving lessons in it. Mary Selma (Mrs. Charles E.) Beach, considering she is a grandmother, did very well as Senor Lee's partner.

* * * * * *

Two down and one to go! Having successfully passed through the rigors of a 25th wedding anniversary and the birth of their first grandchild, Mary Selma and Charlie Beach (John C. Stalfort & Sons, Baltimore) serenely await the third big event in two months, the marriage of their daughter Sandra on Oct. 14. Charles E. Beach, III, was born on Sept. 24 in Talbot County Hospital, Easton, Md., to Nancy Cardin Beach, wife of Charles E. Beach, Jr. The first grandson of the president and first lady of the Chemical Specialties Manufacturers Assn. weighed in at seven pounds, nine ounces. Baby and mother, both reported doing well, receiving visitors at their home in Easton after Sept. 28.

* * * * * *

A new and fanciful game, "Le Mans Realistic Racing Game," another product of the mind and imgination of Roderic F. Mudge of P. Robertet, Inc., New York perfuming materials firm, is just now being marketed by Avalon Hill Co., Baltimore. Mr. Mudge, although one of the country's leading game inventors, still continues to practice this somewhat occult pursuit as an avocation. Perfuming materials come first with Roderic, whose brother, Shaw, is also with Robertet. The game "Le Mans," inspired by the famous French racing car course, consists of some plastic sports cars, cards, die and a board on which the game is played. The course on the board to be followed by the players is the same shape as the famous French course. As might be expected, the Mudges are also sports car enthusiasts.

* * * * * *

Enough people abroad this month from the chemical specialties business to hold a good sized convention in London, Paris, Zurich, or Rome. Fred Lodes, Lodes Aerosol Consultants, Inc., N. Y. C., headed the contingent in Europe for the Aerosol Congress in Zurich, Switzerland. Fred was the official representative of C.S.M.A. at the Aerosol Congress. Also in Zurich for the Congress were Bob Abplanalp and Gordon Gilroy of Precision Valve Corp., Yonkers, N. Y.; George Barr, G. Barr Co., Chicago; and Seth Schneible, Crown Cork & Seal Co., Philadelphia.. Interestingly, Bob Abplanalp sailed on the U.S.S. United States, Sept. 27, while Gordon Gilroy flew over on the 28th.

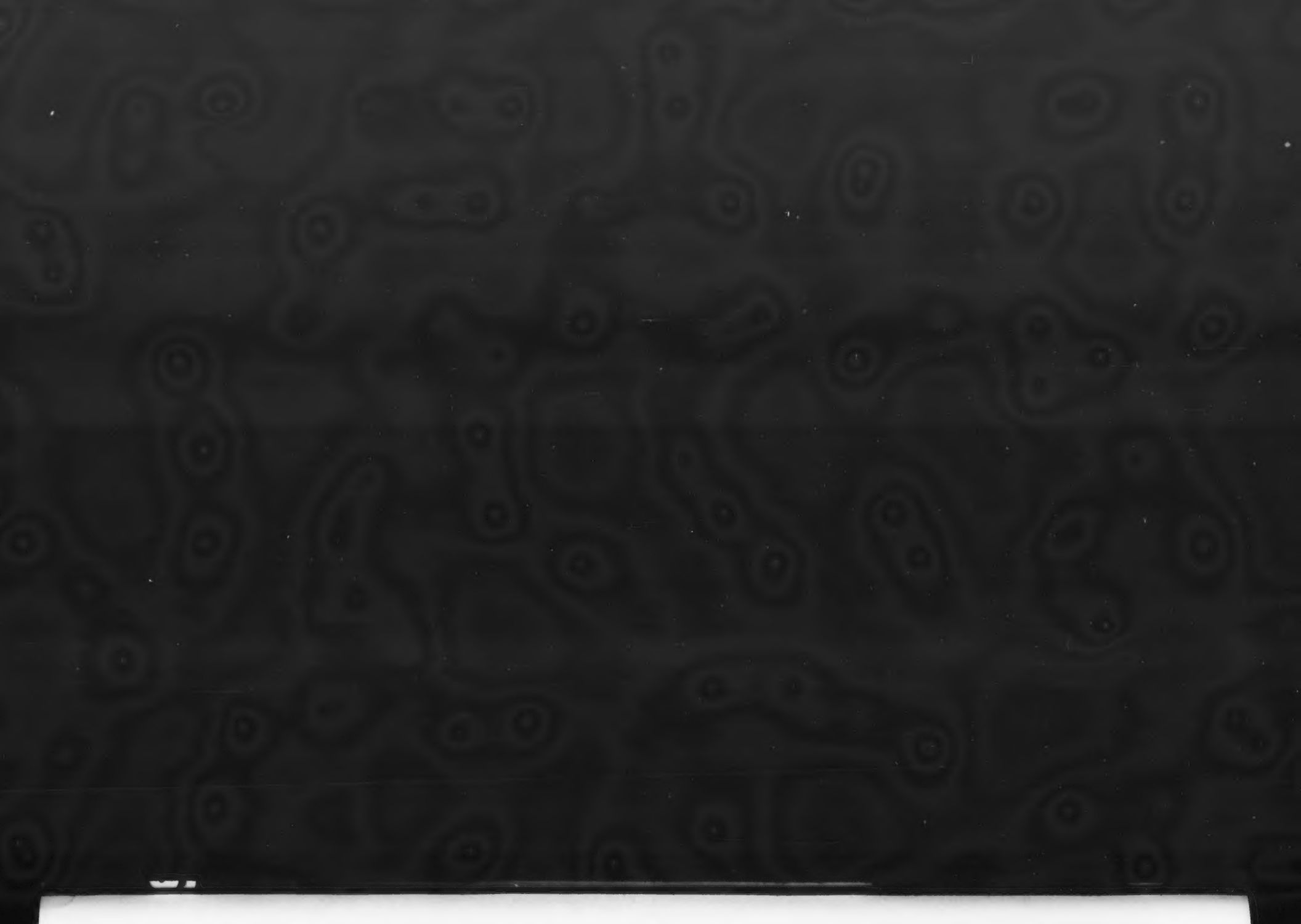
* * * * * *

Other European travelers of the non-aerosol variety are Bill Jessop, U. S. Sanitary Specialties Corp., Chicago, who flew to England on Sept. 12 for a two months trip abroad to such exotic and out-of-the way places as England, where he spent three weeks, Australia, Athens, Cairo, and Honolulu, not in that sequence, of course. Leonard Oppenheimer, West Chemical Products, Inc., Long Island City, left for Europe early in October, and Ralph Hamilton, Baird & McGuire, Inc., Holbrook, Mass., and Dr. E. G. Klarmann are on two months' trips around the world. Dr. Klarmann has 29 ports of call scheduled including Ceylon, Saigon, Hong Kong, etc., etc.

* * * * * *

Gordon Baird, proprietor of the "Yardarm Inn" in Scituate Harbor, Mass., has just sold the restaurant after operating it for around six months. Gordon is reported to have gotten tired of being called, "Mr. McGuire." The real reason, we are told by those in the know, is that the restaurant business was keeping Gordon up after his ironclad retiring hour of 10:00 p.m. Mr. Baird is chairman and was formerly president of Baird & McGuire, Inc., of Holbrook, Mass. He is a past president of C.S.M.A.

* * * * * *

It's a small world! Just found out that Donny Fiero, son of Dr. George Fiero of Esso-Standard and former prez of CSMA has just entered Colorado University at Boulder, Colo. The Fieros live in Port Chester, N. Y. By coincidence, it happens that Sue Brenn, daughter of Earl Brenn, prez of Huntington Laboratories, Huntington, Ind. is a junior at this same university. The Brenns live in Fort Wayne, Ind. Sure it's a small world, but why do kids have to go a jillion miles away from home to attend college?

William P. Dunham, left, newly elected permanent president of the Premium Advertising Association of America, Inc., is presented the association plaque by Glen E. Towns, PAAA vice-president, at the annual Premium Advertising Conference held Sept. 26, in New York.